The RUBBER AGE

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INCREASE IN CRUDE RUBBER PRICES AROUSES ENTIRE RUBBER INDUSTRY

Rise Attributed to British Restriction, Low Stocks and Failure of Manufacturers to Provide for Future Requirements During January and February

The recent sensational rise in the price of crude rubber aroused the interest and concern of the entire rubber industry. On May 11 the market advanced to the highest point in five years, selling at 60 cents a pound, compared with 34½ cents on Jan. 20 and a low of 17 cents last year.

The working of the Stevenson restriction plan was said to be the principal cause of the situation but spot stocks both in this country and in London have been reduced greatly in recent months. Another cause was said to be the failure of manufacturers to provide for their future requirements in January and February when the average was around 40 cents. Because of the demand for balloon tires, more than the normal amount of rubber has been consumed. Consumption for the first three months of 1925 ran around 97,500 tons and April consumption was 36,000 tons, with May thus far keeping fully up to April. Arrivals of rubber for the first quarter were 87,330 tons, so that old stocks were drawn on for more than 10,000 tons. At the end of last year stocks in this country were about 50,000 tons, a reduction of 23,000 tons since January 1924. Total importations for the four months ended April 30 were 114,561 tons, compared with 113,562 tons for the same period last year but consumption is much greater this year and the present importations are said to be inadequate.

Spot stocks in London at the opening of the year were 29,000 tons, compared with 60,000 tons at the beginning of 1924. At this writing they have been reduced to 9,884 tons. Brokers assert that manufacturers who failed to order for their spring requirements have called for quick shipments in many cases and in some instances the brokers have not been able to supply the demand.

It is the opinion of some that the present level of prices is abnormally high. This is doubtless true, if one uses for comparison the prices which prevailed during 1921, 1922, 1923 and 1924. However a comparison of the trend of rubber prices with the trend of general commodity prices shows rubber to be far below normal, while general commodities are above normal. The approximate average annual prices of spot rubber at

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British Tire Prices Raised

Increases of from 10 to 12 per cent in the prices of tires were recently announced by several British manufacturers, to be effective May 13. The manufacturers pointed out that prices in other countries, including the United States, Germany and France, have been advanced, England being almost the only country hitherto unaffected by the high cost of crude rubber.

Files Howe Account

Charles D. Ross, receiver of the Howe Rubber Corp., New Brunswick, N. J., recently filed with Vice Chancellor Backes his report of the business since he took possession on July 23, 1924. An order was made by Mr. Backes directing creditors to show cause why the account should not be approved. The receiver's report shows receipts of $242,600, against disbursements of $42,734, leaving a balance in cash of $199,866. Claims were allowed to general creditors of $606,197, according to the accounting, with one claim of $13,555 in litigation.

Relief Association Meets

The seventh annual meeting of the Tyer Rubber Mutual Relief Association was held recently at Factory No. 1, Andover, Mass. Alex Valentine, president, presided. Routine business having been concluded, the treasurer submitted his annual report, which showed the association to be in a prosperous condition. The receipts for the year included a sum of $609 contributed by the Tyer Rubber Co.

Officers elected were Alex Valentine, president; Robert Lockhead, vice-president; Thomas Ewing, secretary; James Gillespie, treasurer; and William A. Robinson, David A. Forbes, Edwin Anderson.

Register "Corinthian Cord"

The Thomas Rubber Co., Wooster, Ohio, recently registered in the U. S. Patent Office the trade-mark "Corinthian Cord" which it has been using since Nov. 1, 1923 on tires.

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HIGH PRICE OF CRUDE AROUSES THE INDUSTRY

(Continued from Page 111)

New York, from 1912 to 1924, are given below:

1912....	1.20	1919....	.49
1913....	.84	1920....	.36
1914....	.74	1921....	.17
1915....	.66	1922....	.19
1916....	.80	1923....	.28
1917....	.74	1924....	.26¼
1918....	.64		

The average, for the 13 years, in spite of the extremely low prices during 1921 and 1922, is over 56 cents a pound.

The Stevenson plan has functioned properly according to a leading importer. If, at the low price level during the early part of 1924, manufacturers had anticipated their requirements, thereby raising the price to an average of 1s 6d a pound, releases would have been permitted which would have made provision for greater supplies at the present time. The fact that the price was not maintained at 1s 6d a pound but held under one shilling during May, June and July, brought about a 5 per cent decrease in the exportable allowance, to 55 per cent. The price during August, September and October did not average 1s 3d, so a further reduction to 50 per cent took place. Had the price averaged 1s 6d over the year 1924, a production of approximately 565,000 tons would have been allowed, instead of a maximum of 456,300 tons, the present estimated production.

America Faces Shortage

Thus, the American rubber industry faces a shortage of nearby rubber. Further releases due August 1 and November 1, combined with a portable slowing up of actual consumption, will render available increased supplies at that time, but the present tight situation is likely to continue for several months. The Colonial Secretary announced recently that no alteration in the Stevenson plan was contemplated.

Early estimates of consumption in the United States for 1925 were placed at 110 per cent of the 1924 consumption which amounted to about 370,000 tons. It is now generally believed that this figure will be exceeded. The consumption of the rest of the world for 1924 was about 140,000 tons and this year, with the renewed business activity on the Continent, it is expected that this figure will be exceeded by at least 20,000 tons, so that world consumption for 1925 may approach 530,000 tons.

The Export Tax

As in some quarters fears exist that a shortage of rubber may develop within a few months, it is well to remember the restriction scheme is not so rigid as to preclude adjustment in face of such a contingency. If fears of a scarcity become acute, prices will rise to such an extent that it may be profitable for producers to pay the extra tax levied on exports above the prevailing quota, which varies from four pence per pound at 65 per cent to one shilling at 100 per cent. This tax, however, is levied on the total exports over a 12 month period and would amount to so much that there is little likelihood of its being invoked unless rubber rises to $1.50 or $2.00 a pound.

See also articles on Pages 123, 129 and 138.—The Editor.

Rubber Apparatus Patented

Thomas W. Miller, inventor of an apparatus for making hollow rubber articles such as nipples, finger cots, bulbs and the like, which was recently granted U. S. Patent No. 1,537,860, has assigned the patent to the Faultless Rubber Co., Ashland, Ohio. The patent covers a mold comprising a longitudinally apertured mandrel formed with lateral projections, each adapted to receive thereon the open end of one of the articles to be formed. The projections are apertured to communicate with the aperture in the mandrel and open at their other ends. Complemental mold plates are adapted when assembled to enclose the mandrel with the articles thereon disposed in cavities shaped conjointly to the shape of the finished articles.

Postpones Vacations

Employees of the Goodyear Tire & Rubber Co., Akron, who are needed on production will not be able to go on vacations before July 1, or possibly later, P. W. Litchfield, vice president and general manager, announced recently. His statement said that it will be necessary to work eight-hour shifts on Saturday but that efforts will be made to allow five-hour shifts on at least two Saturdays each month.

Patch Method Patented

Harold A. Morton, inventor of a method of making patches for rubber goods, recently granted U. S. Patent No. 1,537,865, has assigned the patent to the Miller Rubber Co., Akron, Ohio. The patent covers a method of forming a sheet of patching material, which comprises two separate sheets of rubber compound, one containing sulphur and an organic accelerator, which is rendered more active in the presence of zinc but no zinc activator, and the other containing rubber and a non-migratory zinc activator. The sheets are superimposed on one another and subjected to a temperature which will cure the zinc-containing layer while leaving the other layer unvulcanized.

Fire Damages Meade Plant

Fire, which destroyed a small warehouse of the Meade Rubber Co., Stoughton, Mass., threatened for a time to become a conflagration. Embers carried by the wind ignited the roofs of four other buildings. The loss was estimated at $10,000.

PROSPEROUS ESTATES NOT AFRAID OF COMPETITION

(Special to THE RUBBER AGE*)*

"For the satisfactory result of our working," said Frederick Anderson, chairman of the Gula-Kalumpong Rubber Estates, Ltd. recently, "we may thank, more than anything else, the operation of the restriction scheme. But for that policy it is very doubtful whether we would have paid any dividends at all during the past three years. Dividends, coupled with steady additions to the financial resources of a company, are some compensation for the alleged disadvantages we are said to be suffering due to restriction, in the painfully labored arguments advanced in certain quarters to prove the scheme has been a failure. We have been told with wearying repetition that the fact that world supplies have increased proves the main object of the 'self-imposed sacrifices' of the British producers has failed; that the expansion of the Dutch native and other 'outside' production has more than offset the reduction in the British output; and that it is increased consumption rather than restriction of output that has brought about the reduction of stocks and recovery of prices.

Not to Reduce Supplies

"The object of our 'self-imposed sacrifices' was not to reduce world supplies. The object, which has succeeded, was to limit—the literal meaning of the word 'restrict'—supplies to world requirements, and at the same time to liquidate the surplus stocks of rubber which were hanging over the market and which had depressed prices below the cost of full production. Let me illustrate this point with a few figures. What is known as full 'standard production' in British Malaya and Ceylon for the first year of restriction was 335,000 tons. The second year it was 308,000 tons, making a total of 643,000 tons. Total shipments from these areas during the two years have been 432,000 tons. Therefore, compared with 'standard production,' the scheme has prevented over 200,000 tons from being exported.

"During the same two years surplus stocks have been reduced by approximately 100,000 tons. Without restriction, therefore, and allowing for the increased consumption that has taken place, stocks today would have been 200,000 tons more than they were in 1922, when prices were 6½d. (13 cents) per lb. for first-grade rubber only.

"Regarding the increase of Dutch rubber, we may point out that the trees from which the expansion comes were planted toward the end of the war, several years before restriction was talked about as a Government measure, and it was clear that, whenever the price of rubber showed the smallest margin over cost of collection, the native planters both in Malaya and in the Dutch Indies would produce as much as they could in ever-increasing quantities. One consequence would probably have been that we should have had a long continued period of depression."

B. F. GOODRICH PLANT WORKING AT CAPACITY

B. F. Goodrich Co. officials are of the opinion that earnings this year will exceed those of any year since 1919, now that tire prices have been advanced. The increased earnings so far this year, however, are due to the fact that the average cost of crude rubber consumed in the manufacture of company's products was considerably under the present selling price of this commodity.

Tire and rubber footwear sales are well ahead of last year. Plants at Akron, Ohio, are working at capacity, making over 25,000 casings and between 31,000 and 32,000 tubes daily. Volume of business coming to branch plants in Canada, England and Germany has been satisfactory.

An important factor in the splendid showing made by Goodrich last year was largely due to the installation of new and more modern machinery which resulted in reducing overhead. The company is now producing approximately the same number of tires with half as many employees. There are about 15,000 employees on the payroll now against 25,000 in 1920. Goodrich's distribution methods also received considerable executive attention in 1924 and the sales force was trimmed down to the lowest point possible. At the close of the year only 13 sales branches were maintained against 80 in 1922. During the year several high-priced executives were let out and the president assumed the duties of acting works manager.

The Question of Dividends

Although Goodrich is now in a sound financial position directors are unwilling to resume common dividends until a more substantial surplus account has been built up. Dividends at the full rate of 7% have been paid regularly on the preferred since organization in 1912. In that year $2 was paid on the common and in the following year $1 a share. From that time until 1916 no common dividends were paid, but in the latter year and until February, 1921, common stockholders received payments at varying rates. In 1921 these payments were discontinued and have not yet been resumed.

The following table shows some of the salient features of company's position at the end of the past four years:

	1924	1923
Net sales	$109,817,685	107,092,730
Total inc.	14,731,166	8,008,480
Depr. & res.	3,547,434	2,088,386
Interest	2,361,228	2,894,711
Net profit	8,822,504	3,025,383
Earnings per share	$ 73	....
Curt. assets	43,986,315	46,996,876
Curt. liabil.	3,412,856	12,719,695
P & L surp.	17,609,966	11,106,950
	1922	1921
Net sales	$93,649,710	$86,687,339
Total inc.	7,853,829	1,035,386
Depr. & res.	2,094,188	1,956,445
Interest	2,711,872	4,746,225
Net profit	3,047,769	*8,983,401
Earnings per share	$.73	....
Curt. assets	50,799,329	51,644,417
Curt. liabil.	16,359,507	3,413,128
P & L surp.	10,794,614	10,194,527

*Deficit.

In addition to the 601,400 shares of no par common outstanding, the company has 424,720 preferred shares and $23,273,500 first mortgage 6½% bonds in the hands of the public. For the ten years, 1915 to 1924, inclusive, net profits have been equal to annual average of about $4.75 a share on the common stock.

Tire Bead Patented

Elias E. Davidson, Akron, Ohio, inventor of a tire bead and a method of making tires recently registered in the U. S. Patent Office under No. 1,536,000, has assigned the patent to the B. F. Goodrich Co. The method comprises providing a fabric cover with an external coating of slow-curing rubber, enclosing a core-ring and a filler of fast-curing rubber, semi-curing the resulting bead core to a degree which partially vulcanizes the filler and leaves the external coating soft, incorporating the bead core in casing, and vulcanizing the casing.

DELIVER 50 TONS OF MACHINERY TO SAMSON

Approximately 50 tons of machinery, including four steel mills to be installed in the rubber compounding mill, were recently delivered to the Samson Tire & Rubber Corp., Compton, Cal. The huge shipment of machinery will be installed in two Westype steel sawtooth additions to main plant. A portion of the rubber compounding mill, weighing ten tons, was one of the largest single pieces of machinery ever unloaded in Los Angeles harbor. The machinery was transported from the docks to the Compton factory on seven trucks with trailers attached. P. J. Messerschmidt, engineer of the company, will superintend the installation of the new equipment.

"A" vs. "B"

For the past two years we have repeatedly advertised our BLACK DIAMOND into the treads of quality tires. Now we are able to show by concrete evidence how such treads wear in actual service.

In tests made with 33 x 4½" high pressure cord tires on taxicabs in metropolitan districts, the following interesting results were obtained:

	TIRE "A" *Tread containing over 50% crude with no reclaimed rubber*	TIRE "B" *Tread containing over 35% BLACK DIAMOND reclaimed rubber*
Orig. Thickness of Tread incl. non-skid	22/64"	22/64"
Thickness of tread left after 14 000 mi.	10/64"*	8/64"**
Rate of wear after 5000 miles	1/64" for 1143 miles	1/64" for 900 miles
Rate of wear after 14,000 mi.	1/64" for 1350 miles	1/64" for 1052 miles
Wear equal to	54%	64%

(*) On right rear wheel of car (**) On left rear wheel of car
It will be noted that tire "B" after 14,000 miles has 8/64" of tread remaining which conservatively estimated will render 3000—4000 miles of additional service.

The saving at present levels between tread compounds of "A" and "B" is approximately 10 cents pound cost, equalling 30%. The Specific Gravity of "B" tread compound with BLACK DIAMOND is even lower than that of "A."

These figures show conclusively that BLACK DIAMOND, the ultra-quality tire reclaim, gives more than adequate mileage at material savings per tire.

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MASON TIRE PRODUCTION LARGEST IN ITS HISTORY

Officials of the Mason Tire & Rubber Co. announce that production has been increased from 5,800 to 7,000 tires a day to meet larger demands from automobile manufacturers and dealers.

Improvements recently completed have enabled the company to boost production 50 per cent at the Bedford plant. Although originally built with a capacity of 350 tires a day, this plant is now turning out 3,200 tires daily.

Before new labor and time saving machinery was installed, the daily output was 2,000 tires. The Palmer-Bee method of curing, which has just been put into operation, allows every heat to be operated simultaneously, instead of alternating. Work in the curing department is speeded up by a continuous conveyor system.

Entire production at the Bedford plant is concentrated on 4.40 size balloon tires. Demand for this size of balloon tires was accelerated by the new policy of the Ford Motor Co. in providing balloon tires as optional equipment on new cars for an additional cost of $25.

The Mason plant at Kent is manufacturing approximately 3,800 tires a day, of all sizes. Large size truck and bus tires form a large percentage of this production.

The output of the combined Mason plants is now the largest in the history of the company.

Improvements costing $80,000 have been completed at the Mason fabric plants, including the installation of more twisters and other modern machinery. The fabric output has been increased 30 per cent as a result of the improvements.

A LETTER TO THE EDITOR

To the Editor, THE RUBBER AGE:

My several months campaign to create something entirely new for the American Rubber Industry namely to induce many rubber manufacturers and those in allied trades to sign a petition asking the Directors of the Rubber Association of America to hold the First American Managed Rubber Exposition, has been of educational value.

Notwithstanding that the 1924 Board of Directors of the R.A.A. declined twice the written suggestions of Chester I. Campbell of Boston, that the R.A.A. cooperate in the proposed "World's Rubber and Tropical Products Exposition," those attending the annual meeting of the R.A.A., Jan. 5, made a mental note that I fully intended that the 1925 Board should again consider this subject of a Rubber Exposition along American ideas.

On April 16, the 1925 Board of Directors of the R.A.A., rejected the proposal, in spite of the large petition, and the moral support of the Boston Chamber of Commerce (by its directors).

Notwithstanding my temporary set backs, there are still rubber manufacturers, wholesalers, and retailers, who say that I am absolutely right, and although it is wiser to postpone the Rubber Exposition, the seed planted will in time bear fruit.

Rubber manufacturers give the following reasons why a Rubber Exposition should be held,—

(1) Boston city officials and others are much interested in rubber paving for streets, more especially to cover wooden planking of bridges where tests have been very successful in withstanding horses' hoofs for a full year. Hence a new use for rubber.

(2) As a general sales stimulant, industrial expositions in other trades have proved beneficial. In other words, textile, shoe, chemical, hardware, etc., executives hardly could be classed as fools in holding expositions.

(3) An opportunity for the rubber manufacturers to study new machinery, compounding ingredients, new processes, new ideas and patented articles to buy or lease.

(4) An Exposition creates a much larger convention, as the trade is more willing to travel for an event lasting a full week.

(5) The only opportunity for *non*-members of the Rubber Association (whether rubber manufacturers or allied industries) to meet each other.

(6) To show the public what has been accomplished in the first 100 years of the American Rubber Industry.

(7) To inspire more confidence in the investing public, showing more consideration to stockholders and prospective shareholders.

(8) To do something really substantial to properly honor the founders of the American Rubber Industry, namely Thomas Wales of Boston, and Charles Goodyear of Woburn, Mass.

(9) An unusual opportunity to educate the buyers and public in the thousands of useful and little known rubber articles.

Retailers are most emphatic regarding this last reason.

A wholesaler was much annoyed, because a clerk in a branch of a very large manufacturer after two years experience declared a certain article was not made. How then is the public expected to know more than say 25 rubber articles out of the 33,000?

Boston, May 4, 1925

QUINCY TUCKER

HYDRO-UNITED FACTORY TO BE OFFERED AGAIN

John P. Hill and Ephraim Lederer, receivers of the Hydro-United Tire Co., Pottstown, Pa., acting under an alias decree of sale issued by the U. S. District Court, dated April 30, will again offer for sale at public auction the property of the company on June 2 at 10:00 a. m. The sale will be conducted on the premises and the property will be offered in lots as prescribed by the decree. The assets of the company when put up for sale on Feb. 10, brought $160,000 which price the receivers deemed inadquate. On their petition the sale was not confirmed by the Court.

Ask Receiver for Dickinson

Charles Hoffman, a stockholder, recently filed a petition in Supreme Court asking for the appointment of a receiver for the Dickinson Cord Tire Corp., New York. Mr. Hoffman charges that Frederick Dickinson, president and general manager, assigned to himself 1,199,000 of the 2,000,000 shares of the company for the alleged transfer of patents and applications, which in reality belong to the Dickinson Tire & Machine Co.,, an Indiana corporation. The par value of the stock is $1.00. The Dickinson Cord Tire Corp. recently purchased a factory in Nutley, N. J., and it was believed in the trade that they would shortly begin the manufacture of tire building machinery.

Cutting Machine Patented

Charles B. Martin, Canton, Ohio, inventor of a rubber-tube-cutting machine, has been granted U. S. Patent No. 1,533,126. The machine has a movable cutter blade cooperating with a stationary blade, means for feeding a rubber tube for cutting off rubber bands and means for clamping the tube adjacent the point of cutting.

Form Australian Company

An agreement has been signed between the North British Rubber Co., and the Dunlop Rubber Co. of Australasia, Ltd., for the formation of an Australian company to manufacture rubber footwear in the Commonwealth. The new concern will be called the Dunlop-North British Rubber Shoe Company (Proprietary), Ltd., and will have an authorized capital of £500,000 ($2,500,000). Factories are to be erected on the outskirts of Melbourne, and operations are expected to commence by the end of the year.

The present arrangement is largely the outcome of the gradually increasing tariffs imposed by the Australian Government, the duty in some cases representing over 100 per cent.

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PRODUCTION OF TIRES INCREASED IN MARCH

According to a statistical bulletin issued recently by the Rubber Association of America, production of balloon tires in March was 1,217,367, compared with 740,106 in February. Inventory was 926,303, compared with 877,851 and shipments were 1,168,277, compared with 764,874 the previous month. Production of high pressure cord casings in March was 2,000,939, compared with 1,996,448 in February. Inventory was 4,369,673 compared with 4,108,082 and shipments were 1,708,352, compared with 1,458,136 the previous month.

Production of fabric tires in March was 738,625, compared with 944,168 in February and 1,009,201 in January, showing that the demand for fabric tires is slackening. Inventory was 1,836,228, compared with 1,710,425 in February and shipments were 616,350, compared with 718,626 the previous month. Production of solid and cushion tires in March was 56,751, compared with 53,058 in February, inventory was 175,010, compared with 191,733 and shipments were 69,833, compared with 55,646 the previous month.

Production of high pressure tubes was 3,895,688 in March, compared with 3,977,721 in February. Inventory was 9,540,993, compared with 8,815,514 the previous month and shipments were 3,120,624, compared with 2,989,606. In March 1,354,434 balloon tubes were produced, against 776,855 in February. Inventory was 1,135,649, compared with 951,539 and shipments were 1,162,910, compared with 738,734 in February. These figures represent 75 per cent of the industry.

Consumption of cotton fabric in March in tires and tubes was 15,040,609 lb., compared with 13,363,986 lb. in February Consumption of crude rubber in tires and tubes was 46,365,630 lb., compared with 41,720,847 lb. the previous month. In March 232,108 passenger cars were produced.

Lambert to Increase Output

Upon completion of a $130,000 building program, the Lambert Tire Co., Barberton, Ohio, will increase its production 25 per cent, it was announced recently by Guy Collette, factory manager. Construction of a new power house is contemplated. A new office building was recently completed.

Goodyear Loses Coal Suit

The Wheeling Township Coal Co., Wheeling, W. Va., owned by the Goodyear Tire & Rubber Co., Akron, Ohio, by agreeing to settle with the United Mine Workers of America for $10,000, representing the aggregate amount of "check-off" taken from miners in the Duncanwood mine over a year ago during a coal strike lost the case. The decision of the company to settle the case recognizes the right of the miners to strike. The strike was called by mine officials in December, 1924, after the company had refused to rehire a miner who had sustained an injury in the mine. The company held that the strike was illegal and deducted one dollar per day from wages after the 300 miners had resumed work, following a compromise. A test case was filed in Jefferson County but a settlement was recently reached in Wheeling between union officials and representatives of the rubber company.

Hood to Build Branch

Erection of a three-story building in W. Jefferson St., near Onondaga Creek, Syracuse, N. Y., on land that has been leased for five years, will soon be started for the Hood Rubber Co., Watertown, Mass. The company plans to use the building as its central New York distributing point.

FACTORY AT ASHLAND LEASED BY MANSFIELD

The Mansfield Tire & Rubber Co. started production May 1 in a factory leased from the Ashland Tire & Rubber Co. in Ashland, Ohio. The Mansfield company expects to employ 200 men eventually and manufacture 1,000 tires a day. Tires made in the Ashland plant are identical with those manufactured in the Mansfield factory where 950 men are employed and 4,500 tires turned out each day.

Traveler Reorganized

The Traveler Tire & Rubber Co., Bethlehem, Pa., was recently reorganized under the name of the Traveler Manufacturing Co.

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Fairly true as regards color, but the behavior of any carbon black in a rubber compound depends on how it is manufactured.

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Chicago	St. Louis	Philadelphia	Paris, France

Hamburg, Germany

VANDERBILT ANNOUNCES "ZIMATE" ACCELERATOR

The R. T. Vanderbilt Co., Inc., 50 East 42nd St., New York, recently announced "Zimate," an accelerator which is recommended for use in rubber cement for the hot splicing of inner tubes. It is the trade name for the chemical Oxidized Zinc Salt of Di-methyl-di-thiocarbamic acid and is the pure, active constituent of Super-sulphur No. 1. Zimate is a strong ultra-accelerator, active at low temperatures and is, therefore, said to be ideal for tube splicing. Owing to the poor heat conductivity of rubber, the temperature of the actual cement during cure is quite low, so that for the best results it is essential to use an accelerator which is active at unusually low temperatures.

Cements containing Zimate along with sulphur will set or form jelly at room temperatures. This setting is retarded by gasoline but benzol or carbon bisulphide do not retard the jelling. The sulphur may be reduced to 4 per cent on the rubber if such is desired provided a slightly longer curing time is used. A non-blooming splice is thereby insured. To produce a freely blooming splice the sulphur may be increased to 10 per cent on the rubber and the Zimate decreased slightly.

Both red and gray, blooming and non-blooming tubes may be spliced with the same cement when Zimate is used. Very fast cures may be obtained if desired but a cure of 5 minutes at 65 pounds steam pressure is recommended by the company for standard practice as being the most satisfactory. Unusually low temperatures may be used on the splicing unit. The cement will give a perfect cure on either a red or gray tube in 10 minutes at 30 pounds of steam. Such a low temperature of cure is desirable in preventing any over-cure of the tube itself. Overcures scarcely affect the quality of the splice itself. The aging is excellent as has been proved by tests. The accelerator does not migrate or travel in rubber as many ultra-accelerators do. Nor does it badly overcure the tube stock, the company claims.

Clinton at Capacity

The Clinton Rubber Co., Akron, which was incorporated last February, is now operating at capacity and filling orders for the Ultra line of transparent rubber products which are somewhat different from similar products on the market. The Ultra cigar holder of transparent rubber is made semi-hard in a light amber color. The soft, yet resistant quality is said to give it preference over holders of hard substances. Many other articles are manufactured by the Clinton company, including banded nipples, pacifiers, teething rings, combs and sundries. The officers are Allyn R. McCoy, president; John A. Smith, vice president and general sales manager; E. E. McMeely, secretary; and T. S. Briggle, factory superintendent.

CRUDE RUBBER IMPORTS DECREASED LAST MONTH

According to statistics issued recently by the Rubber Association of America, importations of crude rubber to the United States in April were 27,231 tons, compared with 31,067 tons in March and 42,436 tons in April, 1924. Importations of 25,403 tons of plantations included 8,365 tons from Singapore, 3,064 tons from Belawan-Deli, 4,365 tons from London, 2,626 tons from Colombo, 1,019 tons from Batavia, 1,981 tons from Penang, 1,514 tons from Pt. Swettenham and 1,106 tons from Sourabaya. 332 tons of Africans were imported in April and imports of centrals and guayule were 322 tons. A total of 1,167 tons of Paras were imported. Imports of waste were 243 tons, balata 38 tons and miscellaneous gums 987 tons.

New York received 21,999 tons of the total importations, Boston 1,250 tons, Baltimore 888 tons and Philadelphia 436 tons. A total of 830 tons was received at Los Angeles.

Conveyor Patented

Max H. Pade has assigned to the Firestone Tire & Rubber Co., Akron, U. S. Patent No. 1,535,338 covering a conveyor for tire factories. The apparatus comprises a horizontally disposed conveyor surrounding the units, a platform above the conveyor, an elevator for lifting articles to the platform and a gravity runway between the conveyor and the elevator.

CARBON BLACKS

OF HIGHEST QUALITIES

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AUTOMOBILE TIRE MOLDS and CORES

GENERAL MACHINE WORK

Akron, Ohio

What is Tar?

[For answer see our advertisements in the June 25, July 25, Aug. 25, Sept. 25, Oct. 25, Nov. 25 issues of THE RUBBER AGE]. Reprints furnished on request.

We can help you find the cheapest tar exactly suited to your needs.

Send us your specifications.

PENSACOLA TAR & TURPENTINE CO.
GULL POINT, FLORIDA

The largest individual producer of distilled pine products

SYNTHETIC RUBBER IS ANNOUNCED BY HOOVER

Discovery by the Bureau of Standards chemists of a process for the artificial production of rubber was announced recently by Secretary of Commerce Herbert Hoover.

After a long series of experiments, it was said, the Government chemists have succeeded, first, in reproducing the essential elements of natural rubber latex and, second, in combining them into a substance comparable in every way with the natural product of the rubber tree.

The process is costly and it is not known as yet whether it can be so cheapened as to permit the artificial rubber to compete with that of the East Indian plantations.

For the last six months, it is known, the Department of Commerce has been viewing with renewed alarm the operations of the British rubber combine. American efforts in the direction of encouraging the plantation production of rubber on American or other territory have not thus far met with conspicuous success. Expeditions sent to Brazil, Panama and the Philippines in 1923 have all returned and are still engaged at the department in the turning out of voluminous reports on the possibility of stimulating rubber cultivation in those countries.

Until Secretary Hoover made his announcement it had not generally been known that experiments looking to artificial production of rubber were in progress.

GUAYULE RUBBER COMING BACK

The slump in the price of crude rubber which began in 1919 when the price went from 70 cents to 10 cents was followed by a decline in the production of guayule in Mexico. Rubber prices have advanced more than 20 cents in the past two months and the result is seen in the increase in the production of guayule. March import figures show that 346 tons were brought into the United States, which compares with 275 tons for the two preceding months and with 67 tons imported during the first three months of 1924.

Mayo Resigns from U. S.

George H. Mayo, second vice president and in charge of the sales of the General Division of the United States Rubber Co., has relinquished his active duties and will take a long rest in an effort to regain his health which has been failing for the past year. He will retain his title of second vice president in order that the company may have the benefit of his counsel and experience. He left his active duties on April 30.

He will be succeeded as general sales manager of the General Division by Herbert E. Smith, now in charge of exports for the company. Smith has risen through the ranks of the company. He was originally located at San Francisco, but several years ago was brought East.

REPUBLIC RUBBER NAMES GOUDIE WESTERN MANAGER

W. R. Goudie has been appointed Western manager for the Republic Rubber Co., Youngstown, Ohio, in charge of the Denver, Salt Lake and Arizona territories, it was announced recently.

Mr. Goudie has had twenty-six years' experience in the rubber business in the United States and abroad, and has spent the last twelve years in the West. He was formerly with the Republic Rubber Co. for ten years, and from 1914 to 1918 was district manager for the same territory which he will now handle.

The Republic Rubber Co. produces rubber belting for conveying, elevating and the transmission of power; hose for water, air, steam, railroad equipment and the like and packing of all kinds.

The Intermountain Belting & Packing Co., 1240 Broadway, has been appointed local distributors for the Republic mechanical line of rubber goods, it also was announced and will carry complete warehouse stocks for quick delivery from Denver. Jack Johnson, who is widely known in the belting and rubber business in the Colorado territory, is vice president and general manager of the Intermountain Co.

Increases Capital

The Heatless Dental Rubber Corp., New York City, recently filed a certificate in the office of the Secertary of State, increasing its capital from $5,000 to $15,000.

DIPHENYL-GUANIDINE

Are you satisfied with the texture of your hard rubber goods? Diphenyl Guanidine, among its other advantages, insures unequalled texture in hard rubber.

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Entire freedom from bead trouble in the construction of straight side tires is assured by the use of either National "(Patent)" High Tensile Strength, Flat Woven, Bead Braid or our new (Pratt Patent) Bead Cables. These cables, made to dimensions specified, have seven strands, yet only one piece of wire is used without soldered, welded or brazed joint.

Write for working samples of either National flat braid or Pratt cables (no charge to tire manufacturers) and full information as to our products and service.

Our engineering department tests beads and furnishes complete confidential reports as to their stretch, set and bursting point, without charge. Inquiries solicited regarding this special service.

National Standard Company
Niles, Michigan

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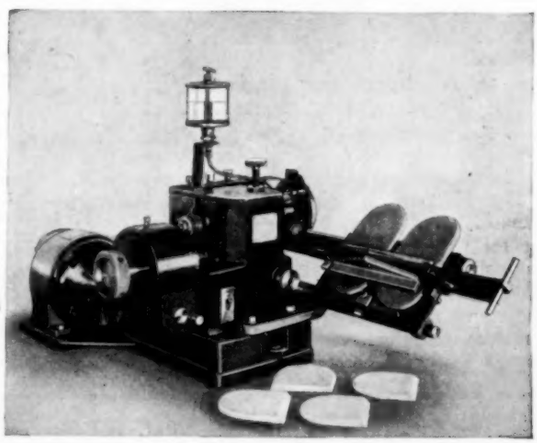

WILLS CREPE HEEL BEVELING MACHINE

Produces four perfect wedge heels with one operation and turns the waste wedge cut into heels. Sample heels and complete details furnished upon application.

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Established 1915
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TIRE AND RIM DIVISION OF S.A.E. PLANNING TO FUNCTION ONCE MORE

Lack of Standardization of Balloon Tires Claimed to be a Menace to the Industry—Division of Simplified Practice, Department of Commerce, Offers Aid

After a long period of inaction the Society of Automotive Engineers is preparing to bring its Tire and Rim Division of the Standards Committee into play. The services of this committee are said to be sorely needed in the tire industry where if the present process of multiplying sizes and styles continues to run unchecked the problem will soon become a very serious one for the entire industry. Failure to reach an agreement on a minimum number of sizes is destined to result in untold confusion when the replacement situation is faced in another year.

The Division of Simplified Practice of the Department of Commerce recently addressed letters to the manufacturers proffering its assistance in bringing about a more orderly situation.

All Motor Engineers

The new S.A.E. committee is to be composed entirely of motor vehicle engineers. Tire engineers, included in the membership of former committees, have now been invited to participate in the work. Henry M. Crane, technical assistant to the president of General Motors Corp. and past president of the S.A.E., will be chairman of the division. Instead of seeking to evolve a standardization program, the division will act as a steering committee for the present time, for the purpose of ascertaining whether the time is approaching when some effective standardization work in tires can be accomplished.

Tire manufacturers now produce 32 different sizes of balloon tires and rims. Including high-pressure tires, interchangeable balloons and full balloons some manufacturers are manufacturing over 100 different varieties and sizes of pneumatic tires. Even in the 30 x 3½ size some plants manufacture 12 types: two clincher sizes, the straight-side cord in a "scant" size, the straight-side cord in the standard size, the oversize, the 10 per cent oversize, etc.

As yet the joint committee representing the Rubber Association and the National Automobile Chamber of Commerce, appointed about a year ago, has accomplished little, due, probably, to the difficulties of the task.

Proper inflation pressures and loads for balloons, which have been the cause of a decided difference of opinion among tire manufacturers for some time, were the subject of definite action at a meeting in April of the Tire & Rim Association. The recommendations approved by the Association, did not represent the unanimous opinion of members, although they are considered to be as perfect as possible when taken into consideration with the present stage of balloon tire development. The recommendations are shown in the accompanying table.

Williams Foundry Elects

At a recent meeting of the board of directors of the Williams Foundry & Machine Co. in Akron, officers were elected as follows: J. K. Williams, president and treasurer; H. L. Williams, vice president; F. C. Vandergrift, secretary and general manager. The officers, together with Charles B. Raymond and F. E. Holcomb, constitute the board of directors. Mr. Vandergrift, who continues as general manager, succeeds the late Christian Franz as secretary and a director.

Decision was reached to resume payment of dividends on the preferred stock at the rate of 7 per cent a year. A dividend of one and three-quarters per cent was voted for the first quarter of 1925.

"Derby" Registered

The Pharis Tire & Rubber Co., Newark, Ohio, recently registered the trademark "Derby" in the U. S. Patent Office under Ser. No. 210,575. The trade-mark has been used on tires and tubes since December, 1924.

Load and Inflation Pressures

Passenger-Car Straight-Side Balloon Tires

Inflation Pressures, Lb. Per Sq. In.	Tire Diameter, In.								
	4.40	4.75	4.95	5.25	5.77	6.00	6.20	6.75	7.30
22	500	580	...	700	...	850	900	...	1,150
24	550	635	...	760	...	925	980	1,100	1,260
26	600	690	725	820	880	1,000	1,060	1,200	1,370
28	650	745	780	880	950	1,075	1,140	1,300	1,480
30	700	*800*	835	940	1,020	1,150	1,220	1,400	1,590
32	*750*	855	890	*1,000*	1,090	1,225	*1,300*	1,500	*1,700*
34	800	910	945	1,060	1,160	*1,300*	1,380	1,600	1,810
36	850	...	*1,000*	1,120	1,230	1,375	1,460	*1,700*	1,920
38	...	...	1,055	...	*1,300*	1,450	...	1,800	...
40	...	...	1,100	...	1,370	...	...	1,900	...
42	...	...	...	...	1,440	...	...	...	...

Figures in italics denote maximum desirable loads.

Rim Association Elects

J. D. Anderson of the Fisk Rubber Co., Chicopee Falls, Mass., was elected president of the Tire & Rim Association at the annual meeting which was held several weeks ago in Cleveland. Other officers elected were: W. B. Minch, vice president; H. W. Kranz, treasurer; C. E. Bonnett, secretary and general manager; and H. W. Day, assistant secretary. Directors elected were: J. D. Anderson, C. C. Carlton, B. Darrow, W. Y. Duncan, J. E. Hale, E. G. Hulse, W. J. Kirkpatrick, H. G. Jackson, H. W. Kranz, Ford Lawrence, W. B. Minch, Paul Pleiss, S. P. Thatcher, J. C. Tuttle and J. H. Wagenhorst.

Swinehart Wins Patent Suit

The Swinehart Tire & Rubber Co., Akron, won a victory in the recent decision of the Circuit Court of Appeals of Ohio in Cincinnati in the case of the Lambert Tire & Rubber Co., Barberton, vs. William Brubaker. Judge Westenhaver of the U. S. Circuit Court ruled that the Lambert company was entitled to the patent secured by Brubaker on a tire mold while he was in the employ of Henry M. Lambert in the Akron Gear & Engineering Co. The Circuit Court upheld Judge Westenhaver's decision. The Swinehart Tire & Rubber Co. hold exclusive rights to manufacture tires by Brubaker's patents.

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Shipments can be made in units up to 90 lbs.
INEXPENSIVE STRONG
SPACE SAVING
PILFER PROOF
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We operate a department for SMALL, RUSH & SPECIAL ORDERS
Send in your inquiries. We shall be pleased to submit samples and quote prices.

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TO GIVE COURSES AT CHEMICAL EXPOSITION

Chemical engineers who have been out of college for some years and who feel the need to brush-up on their fundamentals of chemical engineering methods, will be given the desired opportunity this year at the Chemical Exposition which will be held Sept. 28 to Oct. 3 at the Grand Central Palace, New York. Special courses in chemical engineering, which will be given in conjunction with the exposition, will be divided into two groups, Section One for college students, and Section Two for advanced students, graduate students, and engineers of industry who are desirous of reviewing their work. Lectures will be given by leading authorities in the various fields and will cover fundamentals and advanced work in engineering. Prof. W. T. Read of Yale University will have charge of the complete courses. Lectures will be held in the Grand Central Palace and tours of the exposition for demonstrations will be conducted after the lectures. Entries for the course should be filed with the management, Chemical Exposition, Room 1102, Grand Central Palace, New York. The courses are free.

Hold Quarterly Meeting

The Mechanical Rubber Goods Manufacturers' Division of the Rubber Association of America recently held its quarterly meeting in conjunction with the New Jersey Rubber Manufacturers' Association at the Trenton Country Club, Trenton, N. J. The principal subject discussed was the guarantees on hose and belting. The meeting was held in the morning and after lunch the members played golf. Dinner was served in the evening. J. H. Cobb, of the New York Belting & Packing Co., is chairman of the division.

Dominion Cuts Prices

A new price list recently issued by the Dominion Rubber System, Ltd., Montreal, Canada, announces a reduction in 30 x 3½ Royal cord tires of about 15 per cent. No changes have been made in the price of other sizes, and the reduction is announced as being based on the ability to secure lower production costs through the increased demand.

J. A. McNulty Sails

Joseph A. McNulty, 114 Liberty St., importer of dry colors, sailed on the *Celtic* May 16 on a tour of France, Belgium and England. He expects to leave the Continent June 27.

Trade-Mark Granted

The U. S. Patent Office recently granted the Corduroy Tire Co., Grand Rapids, Mich., exclusive rights to the trade-mark "Sidewall Protection" registered under No. 198,054. The trade-mark, which is used on tires, is not subject to opposition.

87,642 TONS OF RUBBER USED IN FIRST QUARTER

According to the statistics compiled from the 1925 questionnaire for the first quarter by the Rubber Association of America, consumption of crude rubber was 87,642 tons, and 32,630 tons of scrap rubber. 25,353 tons of reclaimed rubber were produced in this quarter. The total sales value of pneumatic tires was $116,752,000; tubes, $19,563,000; motorcycle tires, including casings and tubes, $431,000; bicycle tires, $1,034,000; and all other pneumatic casings and tubes not otherwise specified, $103,000.

***Products Valued at* $228,256,000**

The value of solid tires was $8,165,000; tire sundries and repair materials, $4,019,000; mechanical rubber goods, $24,052,000; boots and shoes, $22,992; insulated wire and insulating compounds, $8,063,000; druggists sundries, $3,335,000; hard rubber goods, $3,315,000; heels and soles, $5,109,000; and miscellaneous, $5,986,000. The total value of rubber goods of all kinds manufactured in this quarter was $228,256,000.

Manufacturers reported 41,012 tons of plantation rubber, 2,760 tons of Para and 1,256 tons of all other rubber on hand March 31. Importers and dealers reported 8,633 tons of plantation, 723 tons of Para and 118 tons of all other rubber on hand. A total of 46,254 tons of all rubber was afloat for U. S. ports on March 31.

CABARRUS COTTON MILLS

M. L. CANNON
PRESIDENT & TREASURER

KANNAPOLIS, N. C.

Superior Quality Tire Fabrics

EGYPTIAN-PEELER
KARDED & COMBED
CORD & SQUARE WOVEN

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Selling Agents

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A. W. REID
Representative

NEW RUBBER PLANTING LIMITED IN THE EAST

As far as can be gathered from existing data in the territories comprising British Malaya (the Federated Malay States, Straits Settlements and Unfederated Malay States) 81,437 acres of new land were put under rubber cultivation in 1918. This figure was reduced by one-half the following year, there was a slight revival to 51,053 acres in 1920, and in 1921 commenced the slump, the figure falling immediately to 17,583 acres, to 6,732 in 1922, and 12,532 in 1923. Figures for 1924 have not yet been issued, but it is safe to assume the new area planted did not exceed the 1923 figure.

In the Federated Malay States and Straits Settlements new plantings have mostly been confined to established planters, who, to effect more economical working or to replace damaged and unproductive areas, have found extension or renewal necessary. There is no evidence to show that native planters have recovered from the slump. In the Unfederated States, the principal extensions have taken place in Kedah and Johore, where American and Japanese capital is being largely invested.

New Rubber Belt

In the Dutch Indies there has recently grown up from the east to the west coast of Sumatra an extensive rubber belt, a large part of which has never yet been tapped. These areas are neither as well planted or cultivated as the European-owned estates in Malaya, but it must be remembered the rubber tree, however badly planted or neglected, is a potential producer of latex once it is firmly established in the ground and attains maturity. Experts now admit that the exact economic life of a hevea tree is still unknown.

Labor, which is rapidly becoming exclusively Indian, is a problem causing producers considerable concern. During the slump, when, owing to the heavy losses producers were suffering, their lack of reserves, and the refusal of most exchange banks to finance estates, wages could not be paid, large numbers of laborers were sent away from the estates. When the market began to improve managers found it difficult to restore their labor forces to pre-slump strength. As a result, although there is little work to do, many estates maintain large labor forces as a safeguard against a future scarcity. They are employed fewer days per month, and are therefore paid less in the long run.

Most Malayan planters confidently anticipate that when restriction is repealed the conservation of the productive capacity of their trees will give them an advantage over the Dutch planters. The capabilities of the large areas in Sumatra, which are just coming into bearing, are unknown. The Dutch are said to be doing extensive propagation by seed selection and bud-grafting and to be adopting other equally efficacious methods of increasing yields and improving strains. On considering these facts, and bearing in mind the wonderful recuperative powers of the rubber tree, it may be doubted whether Malaya's position in open competition with the Dutch Indies will be so safe as assumed. The greater part of Dutch rubber, whose quality is said to be higher than the Singapore standard, goes direct to America and Europe. Within three or four years Java and Sumatra will be able to produce far more rubber than at present, and it is possible Malaya may be outdistanced in the race for increased production. There are as large territories in Sumatra as in Malaya suitable for rubber plantations, and if the industry becomes as vital to the Dutch and Java as it has become to the British and Malaya, it is probable that the Dutch Government will make the investment of foreign capital in rubber more easy, and enter into an agreement with the Indian Government to import Indian labor and thus reduce the cost of production, which is now stated to be higher than in Malaya. One thing is certain: rubber production is no longer a monopoly of our country in any sense of the word.

Organize Karalan, Inc.

Karalan, Inc., New York City, was recently chartered with 100 shares of no par value to manufacture rubber goods. Incorporators are L. V. Festger, 203 W. 66th St., Edna Himmelwelt, 245 Fort Washington Ave., New York, and V. L. Cardno, 3743 92d St., Elmhurst, L. I. Randall, Larson & Hawkins, 149 Broadway, are attorneys for the new corporation.

DUTCH DENY AMERICAN ENTERPRISE IN D.E.I.

The report that American rubber circles intend to extend their interests in the Dutch East Indies has been vigorously denied by the Dutch press, which declares that no such plans are under contemplation.

According to the latest news from Amsterdam, very considerable delivery contracts have been concluded. The one effected by the Rubber Cultuur Mij., Amsterdam (the largest Dutch producer), for the years 1926-29 deserves special mention. It provides for the delivery of 5.5 million pounds of rubber annually to the General Rubber Co. at the London monthly average price for standard sheet, with a minimum of 1s. 2d. (about 28c.). This contract comprises nearly one-half the concern's production, and the price is such that from this sale alone the production costs of the entire crop are covered.

Maywald Invents Composition

Frederick J. Maywald, Nutley, N. J., recently was granted U. S. Patent No. 1,537,483 on a composition for producing rubber products having a comparatively high degree of softness and flexibility. The composition comprises an admixture of pure rubber gum compound and Sandee gum.

Tire Machine Patented

John J. Convery, inventor of a tire making machine, recently granted U. S. Patents No. 1,536,376 and 1,536,377, has assigned the patents to the Goodyear Tire & Rubber Co., Akron, Ohio. The machine includes a support, a fabric-manipulating device carried thereby and having both longitudinal and annular movements, means for automatically actuating this device to effect its annular movement and means for restoring it to normal position.

"Hippo Hide" Registered

The Eberhard Faber Pencil Co., Brooklyn, N. Y., recently registered in the U. S. Patent Office under Ser. No. 210,956, the trade-mark "Hippo Hide" which it has used last since January on rubber bands.

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GOODYEAR FABRIC BOND ISSUE OVERSUBSCRIBED

The oversubscription of the $1,750,000 issue of first mortgage ten year six per cent sinking fund gold bonds of the Goodyear Fabric Corp. offered by Dillon, Read & Co. completes the financing of the Devon Mills property in New Bedford, which consists of half of the former Rotch department of the American Cotton Fabric Corp. The bond issue was floated at 98½ and is secured by a closed first mortgage on all of the fixed property of the Goodyear Fabric Corp., including all machinery and other equipment, together with its leasehold interest in certain hired floor space and its rights and interest in a lease of the entire property of the corporation by the Goodyear Tire & Rubber Co.

The terms of the mortgage provide for a semi-annual sinking fund beginning Oct. 1, 1925, sufficient to retire one-tenth of the bonds each year.

The facts concerning the Goodyear Fabric Corp. itself and the property which it has acquired as well as the general terms of the lease agreement with the Goodyear Tire and Rubber Co., whereby that concern operates the mill property, are outlined as follows by G. M. Stadelman, president of both the Goodyear Fabric Corp. and the Goodyear Tire & Rubber Co.

"The entire capital stock of Goodyear Fabric Corp. is owned by a wholly owned subsidiary of the Goodyear Tire & Rubber Co. The corporation was organized in November, 1924, to acquire certain cotton fabric mills at New Bedford, Mass., as an additional source of supply for tire fabric used by the Goodyear Tire & Rubber Co. The normal requirements of the latter company considerably exceed the capacity of these and other mills now controlled by it directly or indirectly through stock ownership. The mills at New Bedford assure a steady source of tire fabric supply at costs which are expected to result in material savings to the Goodyear Tire & Rubber Co.

"The plant of Goodyear Fabric Co. is a complete manufacturing unit for the production of tire fabric. The land, mill buildings, machinery and equipment are all owned in fee, with the exception of a small space on one floor of an adjoining building held under lease. The buildings are of sound construction and the machinery and other equipment is in first-class operating condition. The entire plant (exclusive of the leased floor space) is appraised by Charles T. Main, of Boston, as of Nov. 10, 1924, to have a depreciated replacement value of $2,573,678. The mills have a total of approximately 57,450 spinning spindles, 16,400 twisting spindles and 102 heavy automatic looms.

"These bonds, to be issued under a closed mortgage, will be secured by direct first lien upon the entire fixed property, including machinery and other equipment, of Goodyear Fabric Corp., and upon its leasehold interest in the above-mentioned floor space in an adjoining building."

STEINBRENNER RUBBER TO DOUBLE CAPACITY

The Steinbrenner Rubber Co., Noblesville, Ohio, which for the past few weeks has been manufacturing 300 tires a day, will shortly double its capacity, according to W. F. Federman, secretary of the company. Additional employees will be hired to bring production up to 600 tires a day. The factory now employs 110. Four new vulcanizers, a new boiler and other machinery, are being installed. The bond issue of $250,000 on the plant has been reduced to $75,000 since Mr. Steinbrenner took control.

Bleiler with Braender

J. B. Bleiler has been made director of sales of the Braender Rubber & Tire Co., Rutherford, N. J. He started in 1908 with the Diamond Rubber Co. and later went with the Fisk Rubber Co., from which he went to the Howe Tire & Rubber Corp.

To Attend Convention

W. O. Ruherford, president of the Rubber Association and vice president of the B. F. Goodrich Co., and M. L. Heminway, general manager of the Motor and Accessory Manufacturers Association, have been appointed by their respective associations as representatives to the convention of the International Chamber of Commerce which begins at Brussels, Belgium, on June 21 and runs until June 27. They will sail from New York on the George Washington, June 11.

How many of the rubber factories in this country are you 'selling'?

Ten percent? Fifty percent? If so, *The Rubber Age* can help you increase your sales among the balance because it is read by the leading executives, chemists and engineers in practically every rubber factory in this country and Canada - twice every month.

We'll be glad to co-operate with you in every way. Write for full information.

THE RUBBER AGE :: 225 FOURTH AVE., N. Y.

A new and superior inert filler—

Barrett

Ground Rubber Compound 78700

For replacing whiting and clay where light gravity stock is desired and hard rubber dust in hard rubber compounds. Resists acid solutions, mills freely, and can be used in black and tan stocks.

Samples forwarded upon request.

The Barrett Company

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Barrett CHEMICALS

FISK RUBBER REPORTS INCREASE IN EARNINGS

The Fisk Rubber Co., Chicopee Falls, Mass., according to a statement issued recently, estimates net sales for the six months to April 30, 1925, at $29,675,000, against $23,200,000 in the corresponding period a year ago, the increase being equal to 28 per cent. After reserves for depreciation, but before interest and Federal taxes, the company reports operating profits of $2,800,000, from which are deducted interest and other charges of $525,000 and current Federal taxes of $290,000, leaving net earnings of $1,985,000 for the period covered by the report. In the same period last year net earnings amounted to $755,000, the increase for the current year amounting to approximately 160 per cent.

The statement says that the company "anticipated its 1925 rubber requirements and commitments for forward delivery are at prices considerably below the market." It is further stated that net sales for April this year showed an increase of more than 40 per cent and net earnings an increase of more than 100 per cent compared with the same month last year.

Reduction of automobile casings and tubes for the six months shows an increase of approximately 33⅓ per cent compared with the same period last year. The company's plants, in order to meet the demand, are now producing 26,000 automobile casings and 32,000 tubes daily, against 18,000 casings and tubes at this time last year.

Missouri Rubber Sued

The Missouri Rubber Products Co., which was to have erected a plant in St. Joseph, Mo., abandoned its offices there with considerable rent due, according to a petition filed by W. F. Kirkpatrick in Circuit Court. Warren F. Nichols also filed suit aginst the rubber company for the recovery of $1,000 alleged to have been paid for 40 shares of preferred stock. The Missouri Rubber Products Co. announced their intention of manufacturing tires in February, 1924. A tract of land was bought but ground was never broken.

INFORMATION EXCHANGE

The inquiries listed below have already been answered but additional information from our readers will be welcome. Mention the reference number in correspondence.

Dipped Rubber Goods

(Reference No. 148) I would appreciate it if you would send me a list of manufacturers of dipped rubber goods, especially toy balloons.

* * *

Hydraulic Tables

(Reference No. 149) Can you supply us with the names of manufacturers of hydraulic tables which are used in conjunction with hydraulic presses for molding rubber heels and soles, that is, they replace the swing tables commonly used?

* * *

German Agency

(Reference No. 150) We are interested in representing American firms in Germany, especially in rubber toys and goloshes. It will be necessary to grant credit terms of from 30 to 60 days. We already represent several English shoe firms. If American manufacturers can compete in price we can promise big business.

* * *

Wing Boot Vulcanizers

(Reference No. 151) Will you kindly have manufacturers of the ordinary wing boot vulcanizing apparatus get in touch with us?

* * *

Rubber Imported at Los Angeles

(Reference No. 152) I note in your last issue that crude rubbers and gums are being received at the port of Los Angeles. Will you please inform me who the purchasers are of this rubber? I should like to get in touch with buyers of rubber in Los Angeles or San Francisco. I am interested at present in finding a market for a rubber gum which would be shipped from the west coast of Mexico. This gum is similar to Pontianac and Jutalong. Can you also tell me what the present quotations are for these grades?

DAYTON RUBBER MFG. REPORTS GOOD SALES

The month of April was the best in sales recorded in the history of the Dayton Rubber Mfg. Co., Dayton, Ohio, it was announced recently by G. W. Spahr, general sales manager. The company is contemplating the installation of additional equipment to enable a 50 per cent increase in production. The April, 1925, sales exceeded those of April, 1924, by 25 per cent.

Mr. Spahr announced that the factory now has a production of approximately 1,800 tires a day and 3,600 tubes. Three shifts are working 24 hours a day. The company is contemplating warehouses in various sections of the country, in addition to the warehouses in Atlanta, Ga., Dallas, Texas, Kansas City, Kansas, Chicago, Minneapolis, New York, Philadelphia and Boston.

Russell Firestone Married

The marriage of Miss Dorothy Lee Bryan of Fort Worth, Texas, to Russell A. Firestone, son of Mr. and Mrs. Harvey S. Firestone of Akron, Ohio, took place recently in St. Thomas's Church, New York. Elizabeth Firestone, sister of the bridegroom, was the bride's only attendant. Harvey S. Firestone, Jr., was his brother's best man. Upon their return from Europe Mr. and Mrs. Firestone will make their home in Akron.

Fisk Registers "Premier"

The Fisk Rubber Co., Chicopee Falls, Mass., recently registered the trade-mark "Premier" in the U. S. Patent Office under Ser. No. 200,485. The trade-mark has been used since last June on inner tubes.

Sheet Process Patented

Harold A. Morton, who recently received U. S. Patent No. 1,537,866 on a process for the manufacture of sheet rubber, has assigned the patent to the Miller Rubber Co., Akron, Ohio. The process consists in producing two stocks, one containing rubber, sulphur and a migratory zinc-activated accelerator but no zinc activator, and the other stock containing rubber and a zinc compound. The stocks are juxtaposed and subjected to vulcanizing temperature.

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FLAT AND CUPPED
Buy the Burrs with
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The only Twice-a-month Rubber Publication
24 Issues Each Year
Domestic . . Two Dollars
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BRITISH CONSUMERS OF RUBBER START AGITATION FOR RESTRICTION REMOVAL

Sir George Beharrell, Managing Director of Dunlop Rubber, Publishes Powerful Plea for Lifting Ban in *London Daily News*—National Interest in Problem

(Special to THE RUBBER AGE)

The publication on the front page of the *London Daily News* of a powerful two-column plea for the removal of rubber output restriction by Sir George Beharrell, managing director of the Dunlop Rubber Co., is notable for at least two reasons. Firstly, it shows that in influential circles it is felt the time has come for the removal of restriction. Secondly, it shows that the interest in the problem is no longer confined to the rubber industry, but has become national. Sir George Beharrell in his article speaks not merely as a consumer, but as one who has considered the broadest uses of rubber and the effect restriction and a high price must have upon their extension.

Only a Temporary Measure

"The restriction policy which was to be practised by the producers," he declares, "was only a temporary measure to tide the industry over a period of great difficulty which admittedly prevailed. The companies suffered then, but conditions have changed since, and better times are now experienced. Rubber growers should not consider it amiss if it is pointed out that any policy of restriction which has for its objective the further advancement of prices will, in the end, prove injurious to producer and manufacturer alike. *Restriction may yet prove a boomerang.*

"Stockholders in the efficiently controlled growing concerns are being deprived of production and profit in order to benefit shareholders of those companies which by geographical position, improper cultivation, poor land, or inefficient management, cannot pay dividends.

"It has been stated that the extension of the uses to which rubber can be put may prove one of the leading factors in bringing about a return to normal healthy conditions, but it is not appreciated by many people to what extent the enormous decrease in the stocks of rubber hampers manufacturers in developing schemes which would entail wider uses of the raw material. One official representative body inaugurated a competition, in which prizes were offered for the best suggestion of a new use for the commodity. But the possibility of widening the purposes for which rubber can be used becomes less and less with each cent that is put on the price.

"Take linoleum and oilcloth, for example. During 1924 the quantity exported from Great Britain was 37,874,531 yd., representing a value of £4,407,632 ($22,038,160). The domestic demand probably also runs into millions. Most authorities believe rubber floor covering is in many ways superior to other coverings, so that if only the price of the former could be reduced to a competitive level there would be a larger increased demand. But as things are at present no big manufacturer would venture to instal a big plant of expensive machinery for the manufacture of rubber floor covering on a mass production scale."

Sounds Note of Warning

Sir George sounded a note of warning as to some of the proposed future uses of rubber, and declared the idea of rubber roadways extending to hundreds of miles can only be regarded as a dream of the far-off future, not possible of realization unless rubber is available at prices today considered quite uneconomic. On the other hand, for special applications, such as the most important thoroughfares of the capitals of America and Europe, the advantages of rubber in reducing noise and vibration are such as to recommend its limited application. The high cost, however, is a difficulty, as at present it would work out at about $750,000 per mile.

The effect of heavy vehicular traffic on great bridges today indicates a further use for rubber paving. Undoubtedly the deadening of vibration by rubber takes on a new importance in view of the severe effects which heavy road traffic is having on structures of every description. But with ventures of this nature, Sir George considers it unwise to indulge in an outlay for machinery and other incidentals where the price of the chief commodity used is regulated, not according to the natural law of supply and demand, but according to a scheme obviously designed to meet a temporary post-war situation.

"With stocks short and supplies in part artificially controlled," the writer continues, "the position is dangerous to any manufacturer who would attempt to visualize a program for some time ahead. Moreover, it is easy to restrict supplies, but difficult to cause a reverse operation, as the provision of additional rubber requires, say, seven years of preparation. It is not unreasonable to assume that large supplies of rubber might be needed in the near future, but that on account of the policy pursued in the last few years adequate supplies would not be forthcoming. Hence substitute would perforce be found, and rubber consumption suffer a serious set-back.

Slowly Increasing Demand

"There is a slowly increasing demand for rubber. Many countries which before the war were large consumers are beginning to re-enter the world's markets. Against this we find a great depletion in stocks. It may be urged that demand is not increasing to a sufficient extent to warrant increased stocks. However true that might be, the demand cannot be fostered unless the consumer is assured that he is able to purchase in a free market.

"America, which is the largest user of rubber in the world and therefore the chief sufferer, may perhaps some day decide upon a course which will eventually leave those who at present control Britain's rubber policy plenty of spare time in which to regret their actions."

Highly significant passages occurred in

(Continued on Next Page)

The CARTER BELL MFG CO
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PROVIDENCE, R. I.

START AGITATION FOR REMOVAL OF RESTRICTION

(Continued from Previous Page)

the speeches of the chairman of two rubber-producing companies--the Kepong (Malay) Rubber Estates and the Klanang Produce Co., both of which did better last year than in 1923—at meetings recently held in London. In both cases the chairmen politely took off their hats to the restriction scheme, and then proceeded to criticize it. Sir Francis Voules, after describing the present restriction policy as too drastic, went on to say:—

"It is pressing heavily upon English-owned estates, and it is galling to realize the handsome profits of the unrestricted Dutch-owned estates, who are reaping a very handsome reward at the expense of their English competitors, who have pulled the chestnuts out of the fire for them in a manner that must be gratifying to Dutch owners. It would be for the benefit of the industry both now and in the future if a more generous policy were adopted as regards permitting increased releases, which seemed to be fully warranted by the statistical position."

Plan Fosters Competition

Again, at the Klanang Produce Co.'s meeting, D. K. Michie said:—

"There is one aspect of the measure that many do not like—its liability to encourage and foster expansion of rubber growing in non-restricting countries at the expense of the British industry. We can only hope, for the sake of British growers, that unless all producing countries agree to come into the scheme the release from restriction will not be too long delayed."

H. W. Morrison, director of various Sumatra companies, commented on these remarks as follows:—

"I have just returned from an extensive tour in Sumatra (where it is possible to compare restricted with unrestricted estates), during which I was accompanied by three of the most highly qualified planters in the island. Their unanimous opinion is that most of the estates which have voluntarily restricted are going to score heavily in the near future owing to the splendid state of their bark reserves, whereas those estates which have been tapping 'all out' are getting in a mess as regards bark reserves. I was assured that when restriction was 'off' or nearly so, they will be penalized to the extent of at least 20 per cent as compared with English estates which have been unselfishly restricting.

"From the standpoint of estate management it would be folly to tamper just now with the restriction scheme. It is of the utmost importance that releases be made gradually, certainly not more than 10 per cent each quarter, otherwise there would be a serious scramble for labor."

The views regarding restriction recently expressed by Harvey S. Firestone have been widely commented upon in Britain. Neither opponents nor supporters of the scheme have accepted them in their entirety. The respected *London Times*, an opponent of restriction almost since its inception, believes that "failure to realize the increased consumption of rubber—not the reduced output—is the real factor which has brought about an improvement in the position of the industry and has led people to all kinds of erroneous conclusions. For instance, Mr. Firestone attributes to restriction an increase in the price of tires because of a possible rubber scarcity. It is inaccurate to attribute the reduction of rubber stocks to a lessened world output. It is to the activities of Mr. Firestone and other rubber consumers that the decrease in stocks is due. The Dutch are producing what the British used to produce and would have produced but for restriction. So far the position as regards the consumer has been unaffected by restriction."

Personals

Homer L. Cupples, a former instructor in chemistry at Ohio State University, has joined the Philadelphia Rubber Co. as research chemist.

* * *

George A. Watt, a graduate of the Massachusetts Institute of Technology, has joined the general laboratory staff of the Firestone Tire & Rubber Co. He formerly was employed in Oregon by the Brighton Mills Co.

* * *

H. B. Fritz, graduate and former chemistry instructor of Ohio State University, has joined the technical staff of the B. F. Goodrich Co. and will work with the sales department, while another Ohio State graduate, Dr. Marion C. Reed, has joined the Goodrich research staff.

* * *

J. J. Blandin, the newly appointed manager of the crude rubber purchasing division of the Goodyear Tire & Rubber company, was formerly manager-director of the Orient Company, Ltd., and had spent 13 years in the Orient developing the Goodyear Sumatra rubber plantation.

Explosion Kills Two

Two workmen were killed and half a dozen others injured April 29 in a terrific explosion which wrecked the varnish and cement shed of the Boston Rubber Shoe Co., Malden, Mass. All over the city the explosion caused excitement and the immediate district was shaken as if by earthquake.

The big shed, seventy-five feet long and two stories high, was literally blown apart and then caught fire. The loss will exceed $100,000.

Robert Stewart, 42, and John F. Nolan, 45, both of Malden, were killed outright. Marvin Maclin of Revere, who was blown through the roof, is in a serious condition at the hospital but is expected to live. Four firemen were injured fighting the blaze.

In the main factory building, windows were shattered.

TO OFFER LARGE ISSUE OF FAULTLESS RUBBER

The Fault'ess Rubber Co., Ashland, Ohio, according to T. W. Miller, president, recently ratified plans for the issuance of 7 per cent preferred stock to the amount of $1,500,000 together with 100,000 shares of common stock with no par value. These two issues will take the place of the present outstanding common stock to the amount of $895,500. In preparation for this reorganization approximately $500,000 in preferred stock, representing all of that class of stock outstanding, has been retired. Under the new plan the holder of each share of the old stock will receive 1 1-10 shares of the new preferred stock and 6½ shares of the new common stock.

When the reorganization is completed the stock of the Faultless company will be listed on the Cleveland stock exchange. The present officials will continue in office but plans are being made for factory expansion.

Tire Mold Patented

U. S. Patent No. 1,532,274, granted to William Steinle, has been assigned to the Hartford Rubber Works Co., Hartford, Conn. The mold comprises substantially duplicate mold sections for shaping the outside of a casing and a sealing ring for closing the gap between the mold sections at the bead-engaging portions. The total thickness of the mold sections and sealing ring at the bead-engaging portions is greater than the total thickness of the mold sections at the tread-engaging portions.

Thomas Plant Closed

The plant of the Thomas Rubber Co. at Wooster, Ohio, was ordered closed by the sheriff on May 1, through action of the Kelly-Springfield Co. in foreclosing a mortgage held on the property which was purchased from them by the Thomas Rubber Co. in 1923 for the sum of $90,000. with a down payment of $10,000. It is claimed that payments were not made when due, and it is reported that a payroll amounting to $600. is unpaid.

The Thomas Rubber Co. filed a cross petition claiming damages amounting to $48,000., stating that funds were withdrawn from a plant at Millersburg in September, 1924, in an effort to refinance the Wooster plant.

Bag Puller Patented

Edward C. Taylor and Charles H. Desautels, inventor of an air-bag puller recently granted U. S. Patent No. 1,535,-382, have assigned the patent to the Fisk Rubber Co., Chicopee Falls, Mass. The device comprises tire-holding means, an apparatus for opening the tire and a spade arm provided with mechanism for forcing it between the tire and the bag, raising the bag to buckle it inwardly, and then forcing the bag out one side of the tire.

EXCELLENT PROGRESS MADE IN 1924 BY RUBBER GROWERS' ASSOCIATION

Annual Report is a Comprehensive Survey of the Work of the Rubber-Growing Industry—Crepe Sole Now Firmly Established as a Result of Association's Efforts

(Special to THE RUBBER AGE)

Highly satisfactory progress was made by the Rubber Growers' Association of London in 1924 and its report for that year, just issued, undoubtedly affords a clearer and more comprehensive survey of the producing industry's work than any other document of a similar nature.

The association's local committees in Malaya, South India, and Ceylon have been of great service in maintaining a close contact between London and the producing centers. Negotiations are proceeding for the strengthening of the committee in South India, and the Ceylonese interests of the R.G.A. continue to be looked after with the cooperation of the Ceylon Association of London. Matters affecting the R.G.A.'s Netherlands Indies members have been closly watched in conjunction with the British Chamber of Commerce for the Netherlands East Indies, and the International Association for Rubber and Other Cultivations in the Netherlands Indies (The Hague).

Little Change in Legislation

With regard to legislation, the most important changes that took effect in 1924 were the provision of a system of ledger accounts in place of licenses in Malaya, the passing of legislation to furnish a better system of control over rubber dealers in Malaya, and the bringing of latex in Ceylon within the legislation, thus conforming to the Malayan control.

Practically all British producers in the Dutch East Indies have agreed to continue during 1925 to regulate their exports on the lines of the Stevenson scheme. The scheme of voluntary regulation of exports adopted by British North Borneo producers is also being continued in 1925 on the basis of 1924. Southern India companies domiciled in Britain, representing 35,088 planted acres, or 87 per cent of the companies concerned, have agreed to continue their support to the voluntary scheme for restriction of exports. A joint circular was forwarded through the R.G.A.'s local committee in South India to local proprietors, but the response has been disappointing.

During the year numerous visits were paid to estates by R.G.A. scientific officers, reports being made in each case. During these visits lectures and demonstrations were arranged on such matters as budgrafting, root diseases, thinning out, cover plants, and sole crepe making. In addition to the usual routine experimental work, special tapping experiments were continued. Budgrafting experiments were also carried out.

Further work on the incorporation of dyes with latex was undertaken, but, attention having been drawn by the R.G.A. to the disadvantages of colored sole crepe, it has been decided to discontinue the experiments for the present. Latex preservation has also been dealt with and many experiments carried out. Tests with glass metrolacs were undertaken and proved the glass instrument possesses advantages over the brass metrolac. The subject of coagulants engaged the attention of the scientific staff and tests were made with formic acid and with sodium silico fluoride. Much work has been carried out with paranitrophenol as a mould preventive, and factory tests are now to be made.

Considerable progress was made toward the establishment of a Rubber Research Institute for Malaya. A resolution was passed in the Federal Council last November approving the scheme and for the introduction of the necessary legislation. The original proposals for the financing of the institute included the levying of a special cess of 10 cents a picul on rubber exports. The R.G.A. pressed the view that during the period of the Stevenson legislation the cost of research should be provided out of the surplus from the present export duty of 2 cents (one cent U. S.) a lb. As a result, the resolution passed by the Federal Council in February provided that while the rate of export duty remains at 2 cents a lb. the tax of 10 cents a picul (133⅓ lbs.) will not be collected, but its equivalent will be paid by the Government to the Research Institute, with effect from Dec. 1, 1924. The Straits Settlements, Kedah, Tregganu, and Kelantan agree with the F.M.S. resolution subject to certain conditions, but no reply has been received from Johore. The R.G.A. has asked that the research tax shall not be levied until the old rate of export duty is reverted to.

Research Work Continued

Work in connection with the revised research scheme in Ceylon, which was inaugurated in 1920, has been continued by the Ceylon Rubber Research Committee of the Imperial Institute. The usual grants of Rs. 67,500 (about $21,900) and £2,000 ($10,000) were made by the Ceylon Government and the Association respectively. The receipts from local subscriptions in the Colony, which amounted to Rs. 9,312 in 1922, and Rs. 16,700 in 1923, reached Rs. 24,417 (about $8,140) in 1924. The period for which the Government approved the scheme expires in 1925, but the R.G.A. has agreed to continue its contribution for a further five years subject to the Government continuing its support.

The R.G.A.'s chemist in Ceylon has given special attention to the development of a glass hydrometer suitable for use in the colony. He has also prepared numerous samples of rubber and latex for examination at the Imperial Institute, and carried out work on the mineral constituents of latex and on the effect of different conditions of smoking on the development of mold. He has experiments in progress concerning the use of formic acid as a coagulant, and on the effect on rubber of spraying the trees with Bordeaux mixture.

The Physiological Botanist to the Association has continued the study of Brown Bast in the laboratory and on the estate. Experiments on the effect of the change-over system of tapping are being continued by him, and he has contributed a report on his inspection of some of the oldest rubber trees in Ceylon to the R.G.A.'s investigation of the probable life of rubber trees under estate conditions. Other questions he has under investigation include the composition of cell sap and the relationship between the reaction of soil solutions and the amount of organic matter present.

Tests With Crepe Rubber

An investigation at the Imperial Institute of a comprehensive series of samples prepared on four estates in different parts of Ceylon at different periods of the year, has been completed. The results indicate that crepe is much less variable than any of the other forms of rubber examined, of which smoked sheet is the least, and unsmoked sheet the most variable. The experiments offer no evidence of seasonal variation or of differences in altitude, climate or soil having any effect on variability in time of vulcanization. In the case of both crepe and smoked sheet there was no difference in the times of vulcanization of the sets from the four estates.

As a result of the manufacturers statement that variations in the plasticity of rubber have a serious effect on factory operations, a special apparatus has been designed and constructed for measuring plasticity in order to determine the extent and cause of the variation in plantation rubber in this respect, and tests are now in progess. Preliminary experiments have been undertaken with an apparatus constructed to compare the adhesive properties of solutions of rubber.

In connection with questions raised by the research Association of British Tire & Rubber Manufacturers as to the suitability of plantation rubber for certain purposes, an extensive series of samples containing different amounts of moisture is being submitted to special tests in comparison with fine, hard Para.

The R.G.A.'s London staff has carried out work on Hopkinson-sprayed rubber, and considered the possibility of securing greater standardization in the methods of testing rubber, with a view to determin-

(Continued on Next Page)

PROGRESS MADE BY THE RUBBER GROWERS' ASSN.

(Continued from Page 125)

ing the differences in the methods employed.

The annual contribution of £200 ($1,000) toward the Myeological Station for Mundakayam, South India, has been continued by the R.G.A. The scientific staff has been in close cooperation with the scientific organizations in the Dutch Indies, Ceylon, and South India. The interests of planters in the Dutch East Indies were guarded by the Netherlands Indies Committee.

According to the Dutch Indies Budget proposals for 1925, it is intended to impose a Statistics Tax of ¼ per cent on imports and exports, and a levy for the maintenance of harbors. Protests have been lodged against the imposition of these supplementary taxes, and a joint petition from the committee and the local British Chamber of Commerce has been sent to the Minister for the Colonies at The Hague. The committee has also taken steps to coordinate the activities and finances of the various experimental stations in Java, and the subject has been investigated by the International Association. As a result a conference of Dutch proprietors was held at The Hague early in 1925, when a scheme was adopted in principle.

In March, 1925, the R.G.A. agreed to the inclusion of Burma within the purview of the activities of the South Indian committee. The close cooperation with the South India Association in London has been maintained, that association having two nominal representatives on the R.G.A. Committee. A member of the committee is now in South India arranging for an agreement between the committee and the local interests in regard to future working.

Propaganda Successful

The R.G.A.'s propaganda secretary states the crepe rubber sole is now firmly established as a stable line in the British shoe industry. Every endeavor has been made to utilize to the full the excellent testimonials received as a result of tests carried out by policemen and postmen.

As a preliminary step to inaugurating a campaign for popularizing rubber flooring, the Propaganda Committee has placed contracts for rubber flooring for the Malaya and Ceylon pavilions and the British Government pavilion at the Wembley Exposition of 1925. The committee has also arranged for rubber flooring to be laid in the British Pavilion at the great Exhibition of Industrial Arts to be held in Paris from May to October, 1925.

With the cooperation of 16 manufacturers and retailers some 4,500,000 leaflets with a covering circular advocating the purchase of rubber goods for Christmas presents were distributed to rubber stockholders last year. This activity is to be extended immediately by the distribution of a brochure dealing with summer uses of rubber.

With regard to Eastern propaganda, the chief secretary to the F.M.S. Government nominated a representative committee, to be known as the F.M.S. Rubber Propaganda Committee. It is now carrying out considerable investigatory work with the object of stimulating consumption in the Far East.

Close cooperation with the Propaganda Department of the International Association has been maintained. At the general meeting of that association held at The Hague last December, the Convenor of the Propaganda Committee appealed for further support from Dutch producers. His address dealt with the work of the R.G.A. as an example of the possibilities of propaganda if adequate funds were available.

Propaganda on the Continent

The European representative of the Propaganda Department has been actively endeavoring to develop a more general use of rubber goods on the Continent. Apart from general trade activities, he has carried out good work through the medium of the technical schools and colleges and by lectures and demonstrations.

The Propaganda Department dealt with a large number of suggestions for uses of rubber, and was also of assistance to firms unconnected with the rubber industry, who had been experimenting with rubber and rubber latex. Arrangements have been made for the carrying out of investigatory work on the use of rubber in the mining industry in South Africa and Malaya. The possibilities of this new use of rubber on a large scale are considered wonderful.

The R.G.A. participated in the Ideal Homes Exposition held in London in March, 1925, by arranging an exhibit of rubber flooring, panelling, and household articles in one of the bungalows erected in a prominent section. So successful was this exhibit that it has been decided to book a large space for an individual exhibit in 1926. The R.G.A.'s travelling exhibit was forwarded to 33 districts in Britain last year, and is still in demand.

The valuable work of the Rubber Uses Development Fund was continued and many suggestions for new uses of rubber were investigated by its panel of experts, those considered of merit receiving suitable recognition.

Fresh avenues for financial support of the Rubber Gifts Fund were opened, certain associations and business concerns indirectly connected with the rubber industry responding favorably to an appeal. Consequently the Fund Committee was able to repeat the distribution of hot water bottles, air cushions, and medical comforts to a large number of hospitals, nursing homes, etc., and, in addition, a quantity of rubber toys was forwarded to several children's hospitals. Grants of rubber flooring were also made to various hospitals.

M. Rothschild Moves

The offices of M. Rothschild, crude rubber broker, are now located at 66 Broad St., New York. Telephone numbers are unchanged. For many years Mr. Rothschild was located at 25 Beaver St.

TUCKER PROPOSES NEW RUBBER ASSOCIATION

Quincy Tucker, 126 State St., Boston, has suggested that a new rubber association be formed. He suggests that dues should be less than those of the Rubber Association of America because the new organization would avoid duplicating the work of the former organization. He says that new and legitimate business would receive a fair hearing; petitions would not be rejected without a referendum vote and that branch meetings would be held monthly in different cities.

He says that some excellent ideas could be borrowed from the Institution of the Rubber Industry in providing classes of membership not available in the R.A.A., such as consulting rubber experts, rubber stockholders, etc. Two conventions would be held each year and every five years or oftener by a two-thirds vote of the members the association would sponsor a rubber exposition.

Rubber Committee Reports

Committee D-11 on Rubber Products of the American Society for Testing Materials made their report at a recent meeting at the Bellevue-Stratford in Philadelphia. A new sub-committee established this year reported an outline of specifications for discs for fire alarm valves. The work of the committee is now generally of a research character on the performance of rubber products. These include an abrasion test for such materials as automobile tires, conveyor belts and rubber covered air and water hose. Accelerated aging tests have been designed to show in a relatively short time the rate of deterioration which would ordinarily take place over a period of months or years, whether the material were in service or in storage. Flexing tests are used for belting. An oil and gasoline test is used for hose for use in conveying such materials.

Bradenton Organized

The Bradenton Rubber Works, Bradenton, Fla., recently made application for a charter. The incorporators are C. E. Deans, Thad O. Thompson, R. Swaskhamer, J. P. Chapman and Wallace Tervin. Capital is $50,000. The company has purchased a blow out patch patent and will manufacture patches in large quantities.

Cutter a Vice President

William O. Cutter, controller of the United States Rubber Co., was recently elected a vice president of that company.

Pittsburgh Leases Plant

The factory of the McLean Tire & Rubber Co. in East Liverpool, Ohio, which has been idle since May 15, 1924, when the company went into receivership, has been leased to the Pittsburgh Rubber Co., Pittsburgh, Pa. Preparations are now being made to resume operations in the near future.

Webster Says:

market, *n.* - A place where merchandize is exposed for sale

That's what THE MARKET PLACE is — a section where rubber chemicals, machinery, equipment and other supplies are exposed for sale.

Buyers will see your products if they are shown in THE MARKET PLACE regularly for they consult this section twice-every-month for their needs.

Just look over the section in this issue. You will find there all the leaders in the industry who are selling the same kind of products which you manufacture. These concerns have found out from experience that it pays in dollars and cents to have their products listed in every issue and of course they are capitalizing on their slight investment.

In the short period of seven months this section has increased from a single page to almost three pages through sheer merit. THE MARKET PLACE fills a long-felt want in the industry for a place to list all sorts of equipment and supplies in small display space.

Note that every listing, not only places the name of your product in large display type, but it also allows of a complete description with your full name and address. What other display advertising gives you as much at such a small cost?

You can not possibly reach all the rubber factories in this country twice every month at the cost of a listing by any other method. Let your listing in THE MARKET PLACE supplement your other sales efforts and you'll be agreeably surprised at the results obtained from this logical tie-up. A trial will convince you.

The cost of a listing in this section is only $5 an issue.
Write us now and we'll send you proofs in a few days.

THE RUBBER AGE

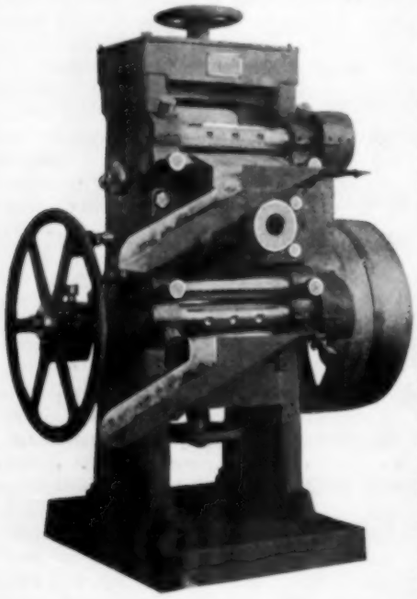
225 Fourth Ave. **New York**

FACTORY EQUIPMENT

ROBERTSON LEAD SHEATH STRIPPING MACHINE "F"

The Robertson Model "F" Lead Stripping Machine is shown in the accompanying photograph. It is especially designed for splitting the lead covering from rubber hose or from rubber or paper insulated electric cables. The stripping of the lead is done without bringing any strain on the hose, wire or insulation, and no scoring or other injury to the rubber or paper covering can occur in the operation.

Two knives, one on each side of the cable, split the lead into two horizontal sections on the center line of the cable. These splitting knives do not cut entirely through the lead covering so the insulation cannot be scored or cut. The covering is then stripped from the hose or electric cable by means of corrugated pulling or stripping rollers, the lead being peeled backwards from the hose or electric cable by the action of these stripping rollers. After passing through the corrugated stripping rollers, each strip, upper and lower, passes through a pair of cutting rollers, and is there cut into 3" lengths convenient for remelting and is conveyed through their respective metal



Robertson Lead Stripping Machine

chutes to a scrap receptacle or box on the floor at one side of the machine.

The machine has a range for stripping hose and cables from ½" to 1½" dia. outside of the lead covering. Any lead covering from 1/16" up to 3/16" in thickness can readily be removed.

The machine is regularly equipped with guide bushings for any four sizes within the above range of diameters. A hand wheel and clutch is provided for use in starting the machine when entering the split lead ends into the corrugated stripping rollers. The machine has also hand wheels or gearing for adjusting the corrugated stripping rollers for various thickness of lead covering.

The machine is mounted on a suitable cast iron bed-plate and is provided with 24" dia. by 4" face tight and loose pulleys for belt-drive. The regular pulley speed is 120 R.P.M. and at this speed the hose or cable passes through the machine and the lead is stripped off at the rate of 60 feet per minute. Power required approximately 3 H.P. Floor space for machine, 4 feet square. The machine is manufactured by John Robertson Co., Inc., 133 Water St., Brooklyn, N. Y.

Rubber Compound Patented

Abraham L. Freedlander and William G. Goodwin, inventors of a method of manufacture of a rubber compound, recently granted U. S. Patent No. 1,536,-288, have assigned the patent to the Rubber Development Co., Dayton, Ohio. The method consists of mixing smoked sheets, rosin oil, sulphur and lime at approximately 130° to 180° F, adding ethylideneaniline previously brought to about 212° F, adding ammonium bicarbonate and cooling the mass to approximately 70°. The interior of a mold is lined with rubber sheets which are cemented in and the mass is placed on these sheets while the mold is heated under 80 pounds pressure a predetermined period. The heat is gradually increased during the first third of the period.

Thomas Files Cross-Suit

When the Thomas Rubber Co., Wooster, Ohio, failed to meet its payments of principal and interest due the Kelly-Springfield Co., from which the Thomas company purchased the local plant in September, 1923, it broke its agreement and contract, ruled the judge in Common Pleas Court recently, in rendering a decision in the action of the Kelly-Springfield Co. to foreclose its mortgage.

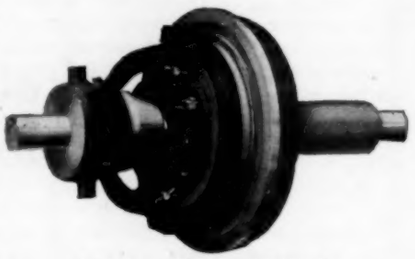
The Thomas company purchased the plant in September, 1923, and moved from Millersburg, transferring its equipment to the Wooster plant. It was shown they paid $10,000 in cash at that time, and later paid $20,000 more, the balance being secured by a mortgage given the former owners. When the new owners failed to make the third payment at the time it was due, action to foreclose on the mortgage was brought.

Now the Thomas company has filed a cross-suit against the Kelly-Springfield Co., for $84,000, contending that the Kelly-Springfield Co. seized equipment brought from Millersburg and not included in the mortgage they held on the Wooster plant.

The Lemley Friction Clutch

The Lemley Model "F" has been developed to meet the demand for a medium and light duty clutch which can be conveniently applied to practically any machine or countershaft which requires a friction clutch.

It has few parts, all of which are in



Lemley Friction Clutch

plain view and readily accessible. No special tools are required to adjust or dis-assemble completely. The principle of operation is simple and is clearly evident after only a few minutes inspection.

Uniform pressure on the friction surfaces is assured at all times. The two toggles are adjusted at the same time by means of one split ring nut.

Free floating friction rings of fiber or asbestos brake-lining material is used. Model "F" is furnished as sleeve clutches, cut-off couplings, or bolted to the arms of pulleys, sprockets, gears, sheaves, etc. Descriptive bulletin gladly sent to interested parties.

Other types of "Lemley" clutches are built for various classes of work and for heavy or light duty. W. A. Jones Foundry & Machine Co., main office and works 4401 West Roosevelt Road, Chicago, Ill., are the exclusive manufacturers and distributors.

Rubber Products to Start

The Rubber Products Co. of America intends to start production of reclaimed rubber in a new factory at Huntington Beach, Calif., in the near future. In addition, the factory will manufacture rubber flooring. The promoters of the company include William H. Yetman, who will be president; Cyrus Field Willard, inventor of a reclaiming process, vice president; Frank G. Webb, secretary; J. K. Norstrom, assistant secretary; and Thomas B. Talbert, as director. Machinery is now being installed at the factory which expects to have a daily production of six tons of reclaim and 5,000 square yards of rubber flooring.

Thomas Hardman Formed

Thomas Hardman, Inc., Schenectady, N. Y., was recently incorporated with $16,000 capital to manufacture tires. Incorporators are Leslie B. Empire, Lila R. Empire, 75 Maple Rd., Troy, and Thomas Hardman, 928 State St., Schenectady.

The Market as Seen by a British Factor

Charles Hope & Son Review the Crude Rubber Market for the Last Four Months and Predict Relief from Shortage

[Charles Hope & Son, 28 Mincing Lane, London, issued on April 28 a review of the crude rubber market which is reprinted here because it will undoubtedly be of great interest to the American trade in view of the present condition of the rubber market.]

ABOUT four months ago the price of rubber was 1s. 6½d. per lb. Shortly afterward the price rose to 1s. 8d., and the year closed with the commodity in good demand at that price. Early in the new year a relapse took place and within three weeks spot rubber was changing hands at 1s. 4¾d. Subsequently, after fairly wide fluctuations, values improved and we now have the price on a 1s. 9¼d. level.

When prices are high they are invariably talked higher, and sober considerations, like forward positions, are at a discount. Anyone who professes to think things are good, although he suspects them to be bad, is called not a liar but an optimist, and is popular. A person who states facts as he sees them, if they are not favorable, is called a pessimist—and often a fool to boot.

We are filled with optimism for the ultimate future of the rubber industry.

However, it is on the more immediate future that the interest of the trade is centered at the moment. When, about the middle of last December, we gave our estimate of the quantity of rubber that would be available for consumption this year, and of the probable consumption for 1925, the stock of rubber in London amounted to over 30,000 tons; since then that stock has been reduced by more than half, and appears likely to be reduced still further during the next few weeks. The immediate statistical position is therefore about as strong as it can be, as the demand is good and world stocks are very low.

The Question of Famine Prices

To anyone not closely in touch and conversant with the position, it would appear that famine prices for the commodity might be reached. If such were to happen it would, in our opinion, be due not to natural causes but either to some dealer having unwittingly oversold or to artificial market manipulation.

We estimated that the world's consumption of rubber during 1925 would amount to 511,000 tons, and during the last four or five months we have seen no reason to alter our estimate. A consumption of 511,000 tons is equivalent to a consumption per month of about 42,600 tons.

The output from the restricted area will be increased on May 1 by 10 per cent of the standard, making the permitted output 65 per cent.

If the average price for the three months ending July 31 is 1s. 6d. the output from the restricted area on Aug. 1 will be increased to 75 per cent. After making provision for "special allowances" 75 per cent of the standard production is equivalent to over 21,600 tons monthly. By August the Dutch East Indies should be shipping about 8,700 tons or more monthly. Brazil and Wild rubber should account for 2,500 tons per month. If the foreign imports into Malaya which last month amounted to over 13,000 tons are maintained, the total shipments which may be expected during August will amount to 45,800 tons compared with an estimated monthly consumption of 42,600 tons, the difference of 3,200 tons being the excess of estimated shipments over the estimated monthly needs.

We are well aware that owing to the present stringency in stocks there will be a considerable amount of leeway to be made up and that the world stocks should be brought up to a level more commensurate with the world's requirements. But the fact that stocks have been reduced to their present abnormally low level without so far causing the price to go above 1s. 9½d., has shown very effectively that consumers, whatever they may say, have not really been unduly inconvenienced by the big reductions that have taken place. The reason, we presume, is that they well know that under the restriction scheme more rubber will inevitably be released, and that even a price of only 1s. 9d. may stimulate production from the unrestricted area sufficiently to considerably increase the output from that quarter.

The present condition of the industry has also probably confirmed consumers in their opinion that if stocks must be carried it is the other man's job to do so, therefore why should the consumer worry, and apparently he does not. Given time there will be plenty of rubber forthcoming and when production is again slightly in excess of consumption producers will either have to carry the surplus stock or else meet the market at slightly lower values. If producers do not wish to carry stocks and therefore a few more tons are offered than are actually needed for the moment, a decline in price is inevitable. Consumers are always disinclined to buy on a falling market which rather tends to accentuate any small fall that may take place.

Keeping in the Spotlight

The frequent statements that have emanated from certain consuming interests in the United States to the effect that this country, by its action, is deliberately engendering a famine in a commodity of which the U.S.A. are by far the biggest consumers, are made, we believe, partly with the idea of self advertisement and partly for political reasons, and we do not think they are taken seriously by consumers generally. These critics, however, have succeeded in what we are informed they call "keeping in the spotlight" so no doubt they are entirely satisfied with their endeavors, particularly as they probably fully realize that whatever it has done for others, restriction in the long run should be of great benefit to the consumers. To pose as upholders of their country's rights must be a quite pleasing and not too expensive form of advertisement.

Stocks are now so low that production may readily exceed consumption for several months without unduly affecting the price of the commodity. If, therefore, an average price of 1s. 6d. is maintained up to the quarter commencing Nov. 1, production during November, providing there is no falling off in the output from the unrestricted area, will amount to over 48,500 tons per month which we again compare with the estimated consumption of 42,600 tons per month, the difference being 5,900 tons per month excess of shipments over consumption.

In all the figures we have given above we have made no allowance for loss in weight owing to moisture in native rubber imported into the Straits Settlements for re-milling and an allowance of roughtly 2,000 tons per month may be made on this account.

Unless there is any falling off in price we see no reason whatsoever why any reduction should be expected in the output from the unrestricted area. We have frequently heard the opinion expressed that production from the unrestricted area cannot increase, the argument being brought forward that the natives have over tapped and are still overtapping their trees, and that the European Estates in the unrestricted area are producing every pound they can. We have heard this argument frequently repeated for over two years; it may be correct but constant reiteration of the statement entirely unsupported by proof does not make it true. The only actual evidence at our disposal, that is, the figures showing the im-

(Continued on Page 142)

Rubber Trade Benefits by Patent Office Transfer

Quicker Registration of Patents and Trade-Marks and Relief for American Inventors Seen as Results of the Recent Change

(Written Especially for THE RUBBER AGE)

By Waldon Fawcett

MORE effective team-play on the part of the three bureaus or divisions of the United States government devoted to the furtherance of rubber trade interests is, at last assured. It will come as a result of the issuance by President Coolidge of an executive order transferring the U. S. Patent Office from the Department of the Interior to the Department of Commerce. It must be accounted very much more than a paper transfer, the adoption of this so-called "orphan" among government institutions into membership in Uncle Sam's "business annex," where it logically belongs.

The best thing about the new arrangement is that it brings the Patent Office, which has such extensive contact with the rubber industry, into closer and more sympathetic relationship with the other two special branches of the government which concern themselves with the practical problems of rubberdom. These units, both already within the Department of Commerce, are the National Bureau of Standards Rubber Division, which concerns itself with the technical problems of a rubber industry and the Rubber Division of the U. S. Bureau of Foreign and Domestic Commerce which has the responsibility for finding new outlets and further developing existing markets at home and abroad for rubber products.

How Industry Will Benefit

The member of the rubber community who has not peeped behind the scenes at Washington may not realize the interdependability of Federal institutions dedicated to a common cause. Take, for example, the situation with respect to the Patent Office. Examiners, who have need of the disclosures of actual tests or experiments to demonstrate the soundness of the claims made in an application for a mechanical patent or a process patent in the rubber industry, instinctively turn to the Bureau of Standards for proof. On the other hand, the trade-mark censors at the Patent Office, when in doubt as to whether or not a nominated rubber brand has descriptive significance in the trade aside from its supposed identifying function, are very apt to consult the rubber marketing specialists at the Commerce Bureau. With these cooperating agencies under one general management the interchanges will not only be more frequent, to the benefit of all concerned, but will be quicker.

In this last, we have the key to most of the benefits which the rubber trade will gain in consequence of the new deal at the Patent Office. Speedier turnover, or more prompt discharge of official duties at the Patent Office is something for which hundreds of members of the rubber community have prayed, with more or less faith, this past few years. At that, it is doubtful if any of us realize how much the progress of the rubber industry as a whole has been held back by the stagnation and procrastination at the national clearing house of invention. Rubber novelties have been held back from the market simply because the originators did not dare expose them for sale until they had been confirmed in their patent rights. Similarly, advertising and sales campaigns have reluctantly been postponed because Washington was slow on the trigger in registering the trade-marks or copyrighting the labels on which the promotional drives were to be pivoted.

The relief and reassurance that is found in the new arrangements for administering the Federal patent system cannot be said, however, to have come at the darkest hour. In fact the jam at the Patent Office has been gradually breaking for more than a year past,—or ever since Congress was persuaded to increase the personnel to about 1,200 and to grant a higher salary scale, which last had the effect of stopping the desertion of the trained technical experts who were leaving the underpaid government service for more remunerative positions in private industry. From being upward of two years in arrears in its work, the Patent Office progressed, until, when Herbert Hoover took the supreme command the other day, it was only about seven months behind schedule.

For the purposes of unimpeded progress in the rubber industry it does not suffice to have the Patent Office within six months of normalcy, or even one month behind. There is, accordingly, evidence of a fine conception of the needs of business, in the announcement of Secretary of Commerce Hoover that he will, as overlord of the Patent Office, bend all energies to clearing the desks and that he hopes that, within a year or two, the work will be fully current. One means of accomplishing this, which will have permanent benefit for the rubber community, will be a realignment of the examining divisions of the Patent Office which will result in the grouping of the various divisions which deal with rubber inventions of any class.

Counted upon also to further the cause of prompt execution of patent routine is a new policy that will discourage undue multiplicity of claims on the part of an inventor. It is realized at Washington that every inventor who evolves a new rubber mechanism or a unique rubber process is keen to obtain a monopoly that will have as wide a sweep as possible. There is a certain sympathy at the Patent Office for the impulse that tempts a patentee to claim everything in sight just to see how much he can get away with. But the greediness has been carried, in some instances, to extreme lengths with the result that Patent Office routine has been clogged. Reformation in this quarter was recommended by a committee of patent experts and representative business men that recently undertook an investigation of the Patent Office at the request of the Secretary of the Interior.

Needs Additional Facilities

Placing of the Patent Office under new management means that, unless all signs fail, this important branch of the government will ultimately have a plant suited to its task. Herbert Hoover, prize example of the business man in government, who now takes the Patent Office under his wing, has a reputation for ability to make Congress realize the needs of big and little business and lay out money where the result will be to make business better. In reality, it should not require special magic on the part of Secretary Hoover to obtain a new and ample home for the Patent Office but merely an ability to drive home to the consciences of our Congressmen the fact that the Patent Office pays its own way by means of the fees of business men and that, figured by any fair system of accounting, there is enough money to its credit in the U. S. Treasury to build a special building

planned to give the patent administrators suitable working and storage quarters.

There is no question but what the overcrowded condition of the Patent Office, which has been chronic for years on end, has taken toll of the rubber industry, aside from its general influence in contributing to keep the Patent Office organization on low speed. It is because the Patent Office is so swamped with records that they cannot be properly stored and indexed, that members of the rubber trade have been obliged to wait disgraceful lengths of time to have their orders filled when they have asked for copies of patents in force in order to ascertain the state of the art or learn what their competitors are doing.

Not so conspicuous in everyday consequences but perhaps more threatening to the well being of the rubber industry, is the fire menace that hangs like a dangling sword over our obsolete Patent Office. Filed on wooden shelves in this building, which has been denounced as a fire-trap, are not only the current records of invention and branding in the rubber industry but irreplaceable documents which may truthfully be said to constitute the very foundation stones of a large share of the American rubber industry. The latter comprise the original deeds of assignment covering the transfer of rubber inventions, designs, trade-marks and labels. If these proofs of equities should be wiped out it is conceivable that something approaching chaos would result in the rubber industry.

Will Protect American Investors

Not the least of the blessings that will accrue to the rubber industry as a result of the transfer of the Patent Office will be the development in a responsible, yes, even aggressive, quarter of the government of a militant sensitiveness for the rights of American inventors and users of patented material. For years past, U. S. firms have been at the mercy of certain foreign powers that, by means of compulsory working clauses in their patent laws, have compelled the Americans to carry on manufacture in their respective jurisdictions instead of manufacturing exclusively in the United States and exporting to the several markets overseas.

This policy which has put U. S. firms to the necessity of establishing branch factories, where they had no real need for them except to safeguard patent rights, has, of course, had no parallel in our own governmental policy. Uncle Sam has not only made no demand that a foreign patent owner manufacture in this country but he has allowed foreigners to make use of their patents to prevent manufacture in the United States—a dog-in-the-manger policy that is suspected of having worked to the disadvantage of American industry in some instances. Herbert Hoover has long felt keenly the injustice of this situation so discriminatory to American inventors and manufacturers and now that he becomes, by the Patent Office consolidation, the official guardian of American patent rights, he intends to cure the trouble. Indeed he has already served notice that if a satisfactory readjustment is not negotiated at the international convention on the protection of industrial property, to be held at the Hague, this autumn, he may recommend that Congress reshape our patent laws and put in new teeth in the guise of a "working clause."

To Change System

Rubber mechanisms and rubber processes do not, of course, comprise the whole story of the dependency of the industry upon the Patent Office. In addition there is the matter of ornamental and artistic designs,—forms, outlines, and surface designs employed in connection with articles manufactured from rubber. With a more aggressive and more discerning Patent Office command, the way is open for inauguration of a system of recording or registering designs instead of the present method of patenting designs. This is one of the principal changes recommended by the advisory committee above mentioned. By coincidence, the Patent Committee of the House of Representatives reported favorably a bill to institute design registration, just about the time that arrangements were completed to give the Patent Office a new lease of life.

In the handling of rubber designs there is needed that same "gingering up" that is coveted for mechanisms and formulae in the rubber field. It has been taking months to get an average application for a design patent throught the mill at Washington and if the design was for a toy or any species of rubber novelty dependent on a passing fad or fickle public favor, the market is apt to be gone, ere credentials are obtained. Moreover, the expense of patenting designs is more than this insurance against imitation is worth in the case of short-lived designs. Under the revised arrangement, that now awaits the O. K. of Congress, designs will be recorded or registered on much the same plan that is followed in the entry of a copyright. The design owner should get his title certificate quickly and at small cost. All told, the new era at the Patent Office will carry out the idea of "more business in government."

The Coagulation of Latex

In an article entitled "Researches on the Coagulation of Latexes" in the *Revue Générale des Colloides* (Nov. and Dec. 1924, pp. 321-9, 353-61), R. Audubert deals at length with the general physical and chemical phenomena of the coagulation of rubber latex and described experiments showing the influence of the conen. of the coagulating agent and of the latex on the extent of coagulation and on the properties of the final coagulum. Considering the growing interest in the direct use of latex, studies of this kind may assume at any time an importance wholly independent of their purely scientific interest. The author again proposes as he has previously done (cf. *Comptes Rendus* Vol. 179, 1924, pp. 209-10) to distinguish in all experimental work between the *agglutinating power and the true coagulating power of an agent. Agglutinating power* should be considered to be the reciprocal of the minimum amount of the coagulating agent capable of causing the first visible evidence of flocculation, while *coagulating power* is the reciprocal of the minimum amount necessary to give a coherent and homogenous coagulum. Following the successive phases of coagulation microscopically it was found that no visible change occurred on adding more and more acid up to a certain point, when suddenly flakes appeared which were composed at times of only two or three individual particles. From this point on the agglutinates became larger and larger until true coagulation was reached, the latter being characterized by a fibrillar, reticular structure. Such a method offers a means of measuring the coagulating power of various agents, for the coagulating power of different agents is proportional to their agglutinating power when measured microscopically in this way.

A State of Saturation

In the coagulation of latex a point is reached when further addition of the coagulating agent does not cause complete coagulation, for a certain number of particles refuse to coagulate. This is called a state of saturation. The number of uncoagulated particles varies greatly with the coagulant, sulphuric acid leaving very few, whereas acetone and alcohol soon reach a state of saturation and leave a relatively great number of particles in suspension. From the supernatant liquid after such incomplete coagulation by acids the particles still in suspension can be coagulated by acetone or alcohol. In general, coagulation initiated by an electrolyte can be completed only by acetone, alcohol, etc., while coagulation by the latter solvents can be completed only by electrolytes.

These experiments suggest the existence of two types of particles which differ in sensitivity to coagulants, perhaps because of varying thicknesses of their resinous envelope.

The original article shows microphotographs which reveal in very clear form the appearance of the latex before and after agglutination, coagulation and drying under varying conditions.

Translated by C. C. Davis.

VULCANIZATION & ACCELERATORS

By Andre Dubosc

PART II (*CONTINUED*)

Natural and Mineral Accelerators

Experiments to Find Relative Influence of Resinous Matters and Litharge on Vulcanization Show that the Removal of Resins Causes Diminution of Coefficient of Vulcanization with Hardening and Deterioration

WEBER made certain observations relative to the effect of deresinification on the rubber gum during the vulcanizing process, but he appears to have completely neglected the effects that it may and can bring about in after-vulcanization.

"The apparent difference between the conclusions which we were able to draw from the two investigations which we made on this subject are due, more than likely, to the composition of the mixtures which were investigated and studied by Lothar Weber.

"In other works that have been done by me on this subject, I have shown that the degree of vulcanization of a mixture of rubber and other ingredients is a function of the relative proportions of the rubber, the litharge and the sulphur that are contained in these mixtures.

"I therefore undertook to make a series of experiments with the mixtures that were employed by Lothar Weber with the intention of determining the relative influence of resinous matters and of litharge on the vulcanizing process.

"The rubber that I employed in these tests were of two types of Hevea plantation rubbers, one pale non-smoked sheet and the other smoked sheet.

"Both of these rubbers were subjected to extraction with acetone, either at a low or elevated temperature. The tests were made for the purpose of determining the influence of heating on the definite properties of the vulcanized rubber samples. The mixtures that were made up in this manner followed along the formula given by Weber and contained fifty parts of rubber, 6.2 parts of litharge and 3.1 parts of sulphur as well as 40.7 parts of carbonate of lime.

"The vulcanization was accomplished with live steam at a temperature of 132 degrees C for periods of ten, twenty, thirty and forty minutes. In this manner the following samples of rubber were vulcanized:

Pale Plantation Sheet Non Smoked

a. A sample which was extracted in the cold with acetone.

b. A sample which was extracted at an elevated temperature with acetone.

c. A sample of pure crude rubber which was not extracted or treated in any way.

d. A sample to which there was added a definite proportion of the resinous matter that was obtained from sample number a.

Smoked Pale Plantation Sheet Rubber

e. A sample of rubber which was extracted with acetone in the cold.

f. A sample of pure crude rubber which was not extracted or treated in any way.

g. A sample of rubber to which a certain proportion of resinous matter, exracted from sample e is added.

The tabulation which follows gives the various results that were obtained in the vulcanization of these rubber mixtures according to the different tests described above. The various factors in this tabulation have the following dimensions.

The resistance to breaking is calculated in grams per square millimeter. For making this determination a ring was cut from the piece of rubber; This ring possessed an internal diameter of one inch and was one and one half millimeters in thickness.

The final elongation is given per length of the sample at the moment when rupture takes place, the initial length of the sample being about one hundred millimeters.

The tension product is obtained by the multiplication of the weight in grams which is required to break the sample of rubber by the elongation and then dividing by 10,000.

The samples that are marked as being too weak to be tested are those which can not support the initial force applied to them without breaking.

			A	B	C	D	E	F	G
Percentage of acetone extract in the raw rubber			0.55	0.56	1.8	2.3	0.9	3.9	4.8
Cooking time	Age of sample days								
20 minutes	7	Resistance Final elongation	too weak	too weak	726 713	887 677	too weak	1252 656	1385 654
		Tension product			32	60		82	91
20 minutes	259	Resistance Final elongation	too weak	too weak	735 646	957 676	too weak	1197 672	1318 664
		Tension product			47	45		81	88
		Coef. vulcan.			0.74	0.74			
25 minutes	7	Resistance							
		Fin. Elong.							
		Ten. product							
25 minutes	259	Resistance							
		Fin. Elong.							
		Ten. product							
		Coef. vulcan.							
30 minutes	7	Resistance							
		Fin. Elong.							
		Ten. product							
30 minutes	259	Resistance							
		Elongation.							
		Prod. ten.							
		Coef. vulcan.							
40 minutes	7	Resistance							
		Elongation.							
		Prod. ten.							
40 minutes	259	Resistance							
		Elongation.							
		Prod. ten.							
		Coef. vulcan.							

When the resinous matters have been extracted from these mixtures, they vulcanize slowly, but it cannot be said that they are not vulcanizable. The rubbers that were extracted with acetone contain a little material that is still extractable. This has been found to be the case both in the tests which were carried out by Weber and those which the author himself made on this subject. Hence it may be assumed that if the rubber gums had been completely deresinified, their vulcanization would have been impossible.

The mixture which contained litharge appeared to be badly chosen for studying the specific qualities of rubber. The highest coefficient of vulcanization that is obtained with this mixture is below 1.5, while the soft rubbers, which are well vulcanized, possess a coefficient which is double that figure. It is found that the other physical properties of the rubbers

are in agreement with this low coefficient of vulcanization. The maximum value of the tension product for the non-smoked sheet rubber is 71, which corresponds to half of what is obtained with a soft well vulcanized rubber.

The samples of rubber, from which the resinous matter has been removed, that is samples A, B and E, undergo amelioration of vulcanization as the duration of the same increase and as they are stored. They have evidently been under-vulcanized.

The samples of crude rubber C and F show little or no improvement in vulcanization as the time of cooking increases. The non-smoked sheet gives the best results with 25 to 30 minutes of cooking. The smoked sheet rubber gives the best results when subjected to a 10 minute cooking.

The fall in the tension product when long enduring cooking of the smoked rubber sheet are carried out is a point to be noted. It appears to be indisputable that under the experimental conditions the samples C and F are vulcanized in spite of their low coefficient of vulcanization and in spite of their very poor physical constants. The samples D and G contain added resinous matters. The effect of these substances is to increase the speed of the vulcanization, the coefficient of vulcanization and the physical constants. Thus in a period of ten minutes the sample D gives better results than the sample C, while on the other hand the sample G seems to be under-vulcanized, for the physical properties of this rubber decrease after a period of eight months have elapsed. It is also interesting to note that the samples of smoked sheet rubber vulcanize better than the samples of pale sheet rubber. On the other hand this is usually the case with mixtures that do not contain litharge.

The Effect of Litharge

The mixtures that contain 6.2 parts of litharge require 0.9 part of sulphur to accomplish a complete transformation of the lead into the state of the sulphate while exerting their maximum accelerating effect. Inasmuch as 3.1 parts of sulphur were used, there remains 3.1 less 0.9 or 2.2 parts of sulphur for reacting with the fifty parts of rubber, that is 4.4 per cent, which can yield a good coefficient of vulcanization, better than that have been obtained with the other rubber samples. The quantity of sulphur that remains in these mixtures in the free state is appreciable and varies between two to three per cent, figured on the weight of the rubber gum.

The time that was consumed in the cooking of the rubber samples was short and as the coefficient of vulcanization increased in a constant fashion as the time of vulcanization increased, it is probable that if these samples of rubber had been cooked for a period of two to three hours, the results would have been better. On the other hand it may be seen that these mixtures are over-vulcanized in a period of 40 minutes. They show this effect even more clearly after a cooking period which lasted two hours. The reduction in the strength of the vulcanized rubber samples and depreciation in other properties that take place as the sample becomes older are very good signs of the fact that the rubber has been over-vulcanized, and it is never possible to derive this conclusion from physical tests carried out on rubber gums which have been freshly vulcanized. The important factor in this consideration is time. It is an essential point in the determination as to whether or not a sample of rubber has been properly vulcanized.

Behaviour in Absence of Litharge

It is an interesting matter to examine the manner in which the same samples of rubber behave when litharge is absent from the mixtures. To this end the following samples were taken for study and they were examined in admixture only with ten per cent of sulphur.

The sample AB^2 is made from white plantation rubber, non-smoked and extracted with the aid of acetone, the extraction being conducted, half at a low temperature and half at a high temperature. The sample C^2 is made from virgin white plantation rubber. The sample E^2 is made from smoked plantation sheet rubber which has been subjected to extraction with acetone, and the sample F^2 is made from virgin smoked plantation sheet rubber. The results obtained in this series of tests are given in the following tabulation:

		AB^2	C^2	E^2	F^2
Coefficient of vulcanization		2.86	3.75	3.82	4.40
Test made on a sample of rubber after five days.	Rupture	1020	1467	1520	1270
	Elongation	1004	1138	983	1007
	Tension product	106	149	149	188
Test made on a sample of rubber after a period of 265 days.	Rupture	1531	2060	1470	2810
	Elongation	836	947	747	976
	Tension product	128	195	110	274

Discussion of Results

The samples of rubber, the results of whose testing are given in the above tabulation, were vulcanized for a period of three hours at a temperature of 135 degrees C. One effect of the deresinification of the rubber by means of hot or cold acetone is the lowering of the coefficient of vulcanization. But in this series of experiments this effect is less marked than in the case where the rubber mixtures contained litharge in addition to sulphur. Then again just like in the preceding series of experiments with litharge mixtures, the samples of smoked sheet rubber vulcanized better than the samples of pale sheet rubber.

The last three samples of rubber were evidently over-vulcanized. But in spite of this it appears that two of these samples showed an increase in their mechanical resistance and an improvement in other physical properties after they had been allowed to remain dormant for a period of eight months. The sample AB^2 is probably one that has been well vulcanized, but the sample F^2 deteriorated sensibly. Moreover the properties and qualities of sample number AB^2 are more apparent in character than they are real, for this sample of vulcanized rubber showed an unmistakable tendency to harden and to become brittle. The small elongations of samples AB^2 and E^2 are comparable with those of the samples C^2 and F^2 which are made from the virgin rubber, not extracted with acetone.

Effect of Deresinification

The effect of deresinification is rather marked when a comparison is made between the samples C^2, E^2 and F^2. The removal of the resinous matters from the rubber gum has the effect of reducing the coefficient of vulcanization in the case of sample E^2, and the same thing is true of sample number C^2. Then again when the test is made on the freshly vulcanized samples it is found that the two samples possess essentially the same resistance to rupture. However after a period of eight months has elapsed sample E^2 has deteriorated, while the sample of virgin rubber, C^2, has improved in quality. The samples from which the resinous matter has been removed gradually harden and lose their elasticity. It therefore seems that the removal of the resinous matters from the rubber possesses two different effects on the vulcanization process.

In the first place it results in the diminution of the coefficient of vulcanization, which takes place most markedly in mixtures that contain litharge, in other words in rubber mixture of the Weber type.

In the second place it promotes the hardening of the vulcanized product as well as its deterioration. In other words the destruction of the rubber is made to take place at a much greater rate than should normally ensue.

Another series of tests were then carried out in which the rubber samples were submitted to a longer period of vulcanization. The tests were made with rubbers of the AB^2 type which were deprived of their resinous content by extraction with the aid of acetone, and also with the straight raw rubber, as in the case of sample C^2. In each case ten per cent of sulphur was added.

The results that were obtained in this series of experiments are given in the following tabulation:

		AB^2			C^2		
Time of vulcanization		2.5	3.0 hours	3.5	2.5	3.0 hours	3.5
Tested after three days							
	Rupture	1000	1310	1470	1130	1290	1600
	Elongation	1021	973	920	1059	1008	963
	Tension product	102	127	135	120	140	154
Tested after 125 days.							
	Rupture	1060	131	89	1340	1360	1100
	Elongation	890	399	278	1046	942	809
	Tension product	95	5	2	141	128	89
Coefficient of vulcanization		—	—	3.91	—	4.02	—

In the next instalment M. Dubosc will discuss the tabulated results.—The Editor.

EDITOR'S REVIEW DESK

Books **Trade Catalogs** **Articles**

SPADONE MACHINE CO. 28 pp. 7" x 10¾. Spadone Machine Co., Inc., 15 Park Row, New York, N. Y.

In this catalog the Bolton Vertical Bias Cutter, the Single Lining Stripper, the Double Lining Stripper, the Wind Up Machine, the Solvent Recovery Equipment of the Benzine Condensation Co., and the Automatic Rubber Machinery of H. Monroe Smith are described and illustrated. The Spadone company is the exclusive selling agent in the United States and Canada for the Benzine Condensation Co. and H. Monroe Smith. The catalog is printed in two colors on high-grade coated stock and is illustrated with many fine-screen halftones.

The Bolton Vertical Bias Cutter, a machine designed for the cutting of fabrics on the bias, is perhaps the best-known product of the Spadone company. It is said to be one of the most economical, accurate and efficient cutting machines of its kind in the world.

* * *

ELIMINATION OF WASTE. Simplified Practice Recommendation No. 27. Cotton Duck. Issued by the Bureau of Standards.

The general and simplified list of wide and sail duck given in this booklet is the result of the conference held in Washington Sept. 17, 1924, to study and submit recommendations in the matter of simplification of the weights and widths of sail and numbered duck. The classification includes 94 fabrics.

To the producer and manufacturer the adoption of this recommendation, it is claimed, will have a beneficial result on the financial side of business, cut down the units of equipment and make for efficiency in the delivery and shipment departments.

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The effect on the consumer will be to increase value and quality and speed up delivery.

* * *

AIRUBBER. The Airubber Corp., 581 East Illinois St., Chicago, Ill. 15 pp. 5¼ x 7½".

Floats, swimming belts, boating and seat cushions, sleeping pillows, mattresses and other articles manufactured by this company are described and illustrated in its catalog. The efficiency of air as a shock absorber has been demonstrated by motor car and bicycle and in the products listed in this booklet the comfort which the tire brings to motoring is the idea utilized and expanded into commodities in everyday use.

* * *

PENTAGON. 12 pp. 5½ x 8½". Edward Penton & Son, 1-3 Mortimer Street, London, W. I., England.

This catalog describes footwear incorporating Fibrok, a product advertised by its manufacturers as rubber knit together by fibres and fibres locked together by rubber in a perfect combination.

Used as insoles, soles and heels the claim is made for this article that it insures a perfect and immediate attachment, gives a cushiony effect, is light and flexible and possesses the firmness of leather.

The catalog is illustrated and each style of shoe shown is given its list number with a detailed description.

* * *

PLASTICITY CONTROL IN RUBBER MIXING. By Paul Beebe and R. B. Stringfield, Goodyear Tire & Rubber Co. Published in *Industrial and Engineering Chemistry* for March.

Plasticity of any mill batch can be altered by changing one or more of the following factors: temperature, time of milling, size of batch, type of rubber and type of softeners, amount and point of addition.

Change in temperature may be effected by mill water control, by adding water on the batch or by controlling gage of stock.

In most cases the uniformity of the stock is found to be more important than the absolute plasticity, which usually means that the tougher a stock is run, as long as it is safely kept inside, the scorching limit, the less the expense.

From the standpoint of plasticity, the most uniform rubber obtainable is pale crepe, with smoked sheets next in point of utility and brown crepes a third choice.

The use of oil softeners and greases offers another method of varying the plasticity. The later these are added the softer the stock, the difference found in keeping the addition of softeners to the last being often as much as fifty points on the plasticity. Different softeners used in equal amounts produce differences of twenty points.

* * *

METHODS OF COMPENSATION. No. 2; Analysis of Branch Managers' Contracts. Issued by the Metropolitan Life Insurance Co., New York.

This second booklet in a series of four endeavors to outline in a general way rules applicable to contracts drawn up by companies with agencies or branch managers.

Indefinite and definite territories are discussed, as are methods of compensation, basis of employment and other features that touch this problem. The conclusions reached are based on existing contracts of numerous companies.

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THE MARKET PLACE Section Continued on Second Page Following.

MARKETS

Cottons and Fabrics

NEW YORK, May 14, 1925

Bearish sentiment, encouraged by the improvement in the new crop situation, predominated in the cotton market recently. The first Government report on the condition of the crop will be published June 2 and a high percentage is already being anticipated. The highest condition officially reported at the beginning of June during the past ten years was 82.3 per cent in 1918. The deterioration which occurred between the first and last reports of that year was 27.9 per cent and the final yield per acre was 159.6 pounds. This yield applied to a preliminary estimate of this year's acreage—43,426,460 acres—would indicate a crop of 13,862,000 bales.

Wool Affects Cotton

The demoralized state of the woolen industry also exercised a bearish influence on the price of cotton. The decline of about 30 per cent in the value of wool since the beginning of the year can be primarily attributed to the resistance to high prices on the part of both retailers and consumers, with the result that, although this year's production of wool is insufficient to supply normal demands as measured by the consumption of the five-year period 1920-1924, it is abundant for the present requirements of the world.

A feature of the market a week ago was the relative strength of the May position, which stood at a premium of two points over July on the 6th. This was ascribed partly to the buying of the near position by spot interests and partly to the liquidation of July due to the belief that there will be no considerable decrease in the size of the local certificated stock until next season, and to the reversal of Liverpool-New York straddles.

New York Cotton Prices

	Open	High	Low	Last Sale	Close May 1
May	22.05	22.30	21.96	22.12	24.16
July	22.12	22.35	21.95	22.13	24.22
October	22.00	22.24	21.83	21.95	23.92
December	22.15	22.40	22.00	22.11	24.10
January	21.85	22.00	21.72	21.77	23.82

TIRE FABRICS

Tire manufacturers put off covering further needs during the past fortnight until inventories were completed. The belief was expressed that Egyptian cotton would decline in price because spinners abroad have quoted the market off. With lower cotton prices tire manufacturers were convinced that the weaker market would influence fabric prices. This accounted in part for unwillingness to operate heavily in third quarter requirements. Tire companies have a fair number of commitments in for the July-September period. Because of the inactivity of the market a number of producers showed a tendency to secure contracts by naming the most attractive quotations. The mills were pushed for delivery of goods on contract.

Quotations showed a little tendency to change during the weakening situation in cotton. The longer staples used in fabric have not relatively fallen in value. On the contrary it was said that with every decline in middling, long staples have correspondingly risen. Lower prices were expected in the end, however.

CORD FABRICS

Combed Sakellarides		Nominal	
Combed Peeler	lb.	Nominal	
Carded Peeler		.51 @	.53
Combed Egyptian uppers	lb.	.70 @	.76
Carded Egyptian uppers	lb.	.64 @	.67

SQUARE WOVEN

17¼-ounce Egyptian uppers, combed	lb.	Nominal	
17¼-ounce Egyptian uppers, carded	lb.	.62 @	.65
17¼-ounce Sakellarides, combed	lb.	Nominal	
17¼-ounce Peeler, carded	lb.	.49 @	.51

Ducks—Sales during the past two weeks were moderately numerous but small in size, totaling little in the aggregate. There was a better feeling in heavy goods quarters because the price basis has held up fairly well. Although prices did not change quotably, buyers interested in moderate-sized quantities found mills amendable to persuasian.

There was a fair inquiry for numbered duck in the first hand market. The discount for this grade was beaten down under inquiry for goods to better than 40 off. The call for hose and belting duck resulted in a selling price of 43 and 43½ cents.

Burlaps—The burlap market has been quiet with little business reported during the past two weeks. April shipments to the Eastern coast were reported as 70,000,000 yards. Western 10,000,000 yards and Canadian 5,000,000 yards. The primary market was weak and the spot and afloat markets were also easy. However, there was no effort to sacrifice prices in an effort to dispose of goods. The principal owners of burlap at present are the strong factors who can afford to ignore any temporary price reaction.

SHEETINGS

40-inch	2.50-yard	yd.	.15½ @	—
40-inch	2.85-yard	yd.	.13½ @	—
40-inch	3.15-yard	yd.	.13¾ @	—
40-inch	3.60-yard	yd.	.11¼ @	—
40-inch	3.75-yard	yd.	.10 @	—
40-inch	4.25-yard	yd.	.09⅛ @	—

DUCKS

Belting	lb.	.44½ @	.46
Hose	lb.	.44½ @	.46
Enameling	lb.	.44 @	.51
Shoe Ducks	lb.	.42 @	—
Single filling	lb.	.19½ @	.21½
Double filling	lb.	.23 @	.24

BURLAPS (Carload Lots)

7½-ounce	40-inch	7.30 @	—
8 -ounce	40-inch	7.40 @	—
10 -ounce	40-inch	9.40 @	—
10½-ounce	40-inch	9.45 @	—

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The Akron Equipment Co.
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FABRICS—Tire fabrics, Egyptian—Peeler, Karded and Combed, Cord and Square.

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THE MARKET PLACE Section Continued on Second Page Following.

Reclaimed Rubber

NEW YORK, May 15, 1925

Activity in reclaims has increased very materially in the past ten days with demands from manufacturers continuing at a high level. The value of reclaimed rubber is now greater than for many years past with the result that reclaimers feel entitled to higher price levels. Crude rubber is high, scrap has risen and continued higher prices for reclaimed are expected by rubber manufacturers. New quotations follow:

Friction (Uncured)				
No. 1	lb.	.40	@	.45
No. 2		.30	@	.35
High Tensile Black				
Super-Reclaim No. 1	lb.	.19½	@	.20½
" " No. 2	lb.	.12½	@	.13½
Shoe				
Unwashed	lb.	.09	@	.09¼
Washed	lb.	.12¼	@	.12½
Tube				
No. 1 (Floating)	lb.	.16	@	.17
No. 2 (Compounded)	lb.	.11	@	.12
Tires				
Black, unwashed	lb.	.09	@	.10
Black, washed	lb.	.10	@	.11
Dark Gray	lb.	.10½	@	.11
Light Gray	lb.	.11½	@	.12½
White	lb.	.15½	@	.16½
Truck	lb.	.08¾	@	.09
Miscellaneous				
Mechanical Blends	lb.	.06	@	.07
Red, High Grade	lb.	.14½	@	.15

Scrap Rubber

NEW YORK, May 15, 1925

Conditions in the scrap rubber market are slightly better. Although the improvement is not marked, during the past few days there has been increased activity with reclaimers taking more stocks. Increasing prices of crude rubber with greater demands from reclaimers have already made themselves apparent in increased quotations on practically all grades of scrap. This condition has long been awaited by dealers and undoubtedly they will make the most of it while it lasts. Quotations are as follows:

Auto tire peelings		.00⅞	@	.01
Standard White auto	ton	20.00	@	22.00
Mixed auto	ton	15.00	@	16.00
Bicycle tires	tons	8.00	@	10.00
Clean solid truck tires		24.00	@	28.00
Boots and shoes		.01½	@	.01⅝
Arctics, untrimmed		.00¾	@	.00⅞
Arctics, trimmed		.01⅛	@	.01¼
Inner tubes, No. 1		.04¾	@	.05⅛
Inner tubes, compounded		.02⅞	@	.03¼
Inner tubes, red		.02¼	@	.02⅜
Battery jars, clean hard rubber		.01	@	.01⅛
Air Brake Hose	ton	14.00	@	—
Rubber hose	ton	8.00	@	—

Crude Rubber

NEW YORK, May 14, 1925

The announcement of an increase in tire prices brought about a sharp advance in the market two weeks ago. Spot goods were particularly in demand and hard to get. Under the impetus of bidders for spot the market again advanced a few days later. On the 7th in one of the most exciting sessions in months the market advanced from ¾ to 1½ cents a pound, depending on position, and closed active and firm. Both London and New York markets were excited again on the 9th when prices were up fully 3 cents and in some positions more at the close. The advance was accomplished without a great deal of actual business being done. In fact, in the May and June positions there were practically no sellers during the short session.

Low stocks brought another day of excitement in London on the 11th, with advances of over 3d a pound. Neither rubber manufacturers nor dealers dared to take a position in the market. Spot rubber was quoted at 60 cents at the close. The shortage of rubber was the only apparent reason for such action. Apparently the Stevenson plan, despite protestations that under it reasonable supplies would always rule, is reacting exactly as the large consuming interests had anticipated. An advance of practically 100 per cent in three months adequately tells the story of the existing situation. It was almost impossible to trade in the market.

The appearance of the market indicated that both buyers and sellers were afraid of the situation and uncertain what to do. Information from Akron indicated that there is little possibility of a reduction in production for at least four to six weeks, as the majority of companies have sufficient orders on hand to run at or near capacity during this period. It is believed that until further stocks are received, or some curtailment in production is made that the market will continue high on the nearby positions.

Para grades were steady, with sellers showing no tendency to lower asking prices. The limited stocks, and firm cable advices from Brazil, it is believed, will continue to hold prices. It is reported that a group of the largest dealers in London hold the bulk of the stock of about 9,000 tons. If this is true, considerably higher prices may be anticipated.

NEW YORK MARKET

Plantations—				
Ribbed Smoked Sheets				
Spot		.62	@	—
May		.62	@	—
May-June		.61½	@	—
June		.61	@	—
June-July		.58½	@	—
July		.57	@	—
July-Sept.		.55	@	—
August-September		.54	@	—
July-December		.52	@	—
Oct.-Dec.		.49½	@	—
First Latex, crepe spot		.61	@	—
Amber Crepe, No. 1, spot		.61	@	—
" " No. 2,		.60½	@	—
" " No. 3,		.60	@	—
Brown Crepe, Rolled		.57½	@	—
" " Clean, thin		.58½	@	—
" " Specky		.58¼	@	—
Scrap, Colombo No. 1		Nominal		
Pontianac—				
Bangermassin		Nominal		
Palembang		Nominal		
Prime Pressed		Nominal		
Sarawak		Nominal		
Paras—				
Up-river Fine		.49	@	—
" Medium		.41¼	@	—
" Coarse		.38	@	—
Islands, fine		.38¾	@	—
Madeira Fine		.50	@	—
Acre Bolivian, fine		.50	@	—
Tapajos, fine		.39	@	—
Cut Beni Bolivian, fine		Nominal		
Caucho Ball—				
Upper, shipment		.39	@	—
Centrals—				
Central, scrap, prime		.33	@	—
Corinto, scrap		.33½	@	—
Esmeraldo, sausage		.33½	@	—
Guayule, w and d		.35	@	—
Africans—				
Benguela, No. 2		Nominal		
Congo, upper, black		Nominal		
" " red		Nominal		
Kassai, Prime Red		Nominal		
Balata—				
Block, Columbia		.65	@	—
" Cuidad		.65	@	—
Surinam, sheet		.85	@	—
Gutta Percha—				
Siak		.17	@	.18
Red Macassar		3.00	@	3.20
Chicle—				
Mexican, Yucatan		.65	@	—

LONDON MARKET

Standard Ribbed Smoked Sheets—	
Spot	31 d
June	31
July-September	26½
Oct.-December	22⅞

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—	
Spot	31 d
June	31
July-September	26½
Oct.-December	22⅞

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For cutting all rubber, composition and plain or impregnated fabrics.
Cameron Machine Co.
61 Poplar St., Brooklyn, N. Y.

VALVES— Tire valves, caps, insides, pressure gauges.
A. Schrader's Son, Inc.
Brooklyn, N. Y.

RUBBER SUBSTITUTES
White, brown and black.
Carter Bell Mfg. Co.
150 Nassau St. New York

SULPHUR—*"Tire"* Brand Superfine; *"Tube"* Brand Velvet; quality Sulphur for the rubber trade.
Stauffer Chemical Co.,
of Texas.
Scanlon Bldg. Houston, Texas
San Francisco, Cal. Chauncey, N. Y.

WHITING & PARIS WHITE
manufactured from *Genuine English Chalk* and *Cliffstone*—no adulterations.
Southwark Mfg. Co.
Camden New Jersey

RUBBER SUBSTITUTES
All grades — Samples furnished.
Manufactured by
The Westminster Chemical Co.
531 South Peoria St. Chicago

TAR—PINE, RETORT, KILN
All grades for the rubber manufacturer.
Pensacola Tar and Turpentine Co.
Gull Point, Florida

ZINC OXIDES—A Z O, the Super Zinc.
American Zinc Sales Co.
P. O. Box 1428 Columbus, O.
Pierce Bldg. St. Louis
Prudence Bldg. New York

RUBBER TESTING APPARATUS
Bierer-Davis Rubber Aging Apparatus; Rubber Buffing Machine for preparing tensile strength samples.
Emerson Apparatus Co.
171 Tremont St., Melrose Highlands, Mass.

TECHNOLOGIST — Testing, formulae, costs, litigation, experimental work on all classes of rubber products.
Fred'k. J. Maywald, F.C.S.
5 William St., Belleville, N. J.

ZINC OXIDES — Including KADOX and "Albalith."
The New Jersey Zinc Sales Company
New York Pittsburgh Chicago
Cleveland San Francisco

CHEMICALS & COMPOUNDING INGREDIENTS

Accelerators — Colors — M.R. — Compounding Ingredients Softeners — Vulcanizing Ingredients — Rubber Substitutes

NEW YORK, May 15, 1925—Conditions in rubber chemicals and compounding ingredients remain satisfactory. Although spot business in most items is not all that is desired, contracts have been good. Manufacturers continue busy and no immediate let-up is in sight. Prices have become easier on several of the organic accelerators but on the whole, few changes were reported. Quotations follow:

ACCELERATORS

Organic				
Aldehyde ammonia, crystals	lb.	$ .93	@	.95
Aniline oil, drums	lb.	.17	@	.17½
Di-Ortho-Tolylguanidine	lb.	1.13	@	—
Diphenylguanidine	lb.	.95	@	.98
Ethylidene aniline	lb.	.70	@	—
Excelerex	lb.	.40	@	.45
Formaldehyde-Aniline	lb.	.40	@	.45
Hexamethylene-tetramine	lb.	.82½	@	—
Paraphenylenediamine	lb.	1.25	@	1.40
Piperidine-Piperidyldithio-Carbamate	lb.	5.00	@	—
Super-Sulphur No. 1	lb.	.50	@	—
Super-Sulphur No. 2	lb.	.18	@	.30
Tensilac, No. 29	lb.	.80	@	—
No. 40	lb.	.75	@	—
Tuads	lb.	4.50	@	6.00
Thiocarbanilide, kegs	lb.	.26	@	.30
Triphenylguanidine	lb.	.75	@	—
Vulcone	lb.	.84	@	—
Zimate	lb.	5.00	@	—
Inorganic				
Lead, sublimed blue	lb.	.10	@	.11
Lead, white	lb.	.10¾	@	—
Litharge, domestic	lb.	.11¾	@	—
Lime, superfine	lb.	.01½	@	.02
Magnesia, calcined,				
light	lb.	.24	@	.25
extra light	lb.	.40	@	.45
heavy	lb.	.03½	@	.06

COLORS

Blacks				
Arrow "Aerfloted"	lb.	.07	@	.11
Bone Black	lb.	.05½	@	.09
Carbon "	lb.	.07	@	.11
Drop "	lb.	.06	@	.14
Ivory "	lb.	.12	@	.45
Lamp "	lb.	.12	@	.40
Micronex	lb.	.08	@	.12
Thermatomic carbon	lb.	.04	@	.08
Blues				
Cobalt	lb.	.21	@	.26
Prussian	lb.	.35	@	.37
Ultramarine	lb.	.08	@	.35
Browns				
Iron oxide	lb.	.02¼	@	.06¼
Sienna, Italian	lb.	.04	@	.14
Umber, Turkey	lb.	.04	@	.06
Vandyke, domestic	lb.	.03	@	.03½
Greens				
Chrome, light	lb.	.27	@	.29
medium	lb.	.29	@	.30
dark	lb.	.31	@	.34
commercial	lb.	.10	@	.10½
Chromium Oxide, bbl.	lb.	.34	@	—
Reds				
Antimony crimson, 15/17 F.S.	lb.	.43	@	.45
sulphur free	lb.	.45	@	.50
golden, 15/17 F.S.	lb.	.19	@	.22
pentasulphide, pure,	lb.	.35	@	.38
15/17 F.S.	lb.	.33	@	.36
red sulph. 15-17F.S.	lb.	.16	@	.20
Indian English	lb.	.11	@	.15
Oximony	lb.	.13½	@	—
Para toner	lb.	.90	@	1.00
commercial	lb.	.14	@	.15
Red oxide, reduced	lb.	.04	@	.12
pure	lb.	.12	@	.14
Toluidine toner	lb.	1.80	@	2.05
Venetian red	lb.	.01½	@	.05
Vermillion, quicksilver, English	lb.	1.40	@	1.45
domestic	lb.	.15	@	.25
Whites				
Albalith	lb.	.06¾	@	.06¾
Aluminum bronze		.60	@	1.25
Lithopone, Akcolith	lb.	.06¼	@	.06¾
Lithopone Azolith	lb.	.06¼	@	.06¾
Zinc Oxide—American Process XX red	lb.	.07¾	@	.08¼
Kadox, black label, bags, cars		.10⅝	@	.11½
blue " " "		.09⅝	@	.10⅛
red " " "		.08⅝	@	.09⅛
American Azo: ZZZ (lead free)	lb.	.07¾	@	.08¼
ZZ (under 5% leaded)	lb.	.07	@	.07½
Z (8-10% leaded)	lb.	.06¾	@	.07¼
Zinc Oxide—French Process White seal	lb.	.12	@	—
Green seal	lb.	.10¾	@	—
Red seal	lb.	.09¾	@	—
Yellows				
Chrome, light		.18	@	.18½
dark and medium	lb.	.18	@	.18½
Cadmium Sulphide	lb.	2.00	@	2.50
Ocher, French medium	lb.	.02¼	@	.02½
domestic	lb.	.01½	@	.02½

COMPOUNDING INGREDIENTS

Aluminum Flake (f.o.b. plant)	ton	21.85	@	24.50
hydrate light	lb.	.17	@	.18
Ammonia carbonate	lb.	.13½	@	.14½
Asbestine	ton	18.00	@	20.00
Barium carbonate	ton	54.00	@	56.00
Barium Dust	lb.	.05	@	.06
Barytes southern off-color, ton		12.00	@	18.00
Western prime white ton		22.00	@	23.00
imported	ton	28.00	@	35.00
Basofor	lb.	.04½	@	—
Blanc fixe, dry f.o.b. works	lb.	.04	@	.04¼
Carrara filler	lb.	.01¾	@	.02
Chalk, precipitated, extra light	lb.	.04¼	@	.05
heavy	lb.	.03¼	@	.04
Clay, China, domestic	ton	15.00	@	25.00
Dixie	ton	20.00	@	35.00
Blue Ridge, Dark	ton	9.00	@	—
" " Light	ton	12.00	@	—
Langford	ton	12.00	@	22.00
Glues, extra white	lb.	.21	@	.29
medium white	lb.	.19	@	.25
cabinet	lb.	.16	@	.25
cabinet low grade	lb.	.15	@	.18
common bone	lb.	.11	@	.14
Graphite flake, bbls.	lb.	.06½	@	.12
Lump	lb.	.04	@	.07
Infusorial earth, powdered	ton	23.00	@	25.00
bolted	ton	20.00	@	—
Liquid latex	gal.	1.75	@	2.00
Magnesia, carbonate	lb.	.08¼	@	.09
Mica, powdered	ton	65.00	@	80.00
Rotton Stone (powdered)	lb.	.02½	@	.04½
Soapstone, powdered	ton	15.00	@	22.00
Starch, powdered	cwt.	4.07	@	4.55
Talc, domestic	ton	16.00	@	18.00
French	ton	18.00	@	22.00
French, high grade	ton	38.00	@	45.00
Italian	ton	45.00	@	55.00
Terra Alba	cwt.	1.25	@	2.00
Tripoli, white	lb.	.02	@	.02¼
Whiting, commercial	cwt.	1.00	@	1.15
gilder's bolted	cwt.	1.25	@	1.35
English cliffstone	cwt.	1.50	@	3.00
Paris white American	cwt.	1.25	@	1.50
Quaker	ton	13.00	@	15.00
Sussex	ton	8.00	@	10.00
Wood pulp XXX	ton	35.00	@	—
" " X	ton	25.00	@	—

MINERAL RUBBER

Genasco (factory)	ton	50.00	@	52.00
Granulated M.R.	ton	35.00	@	45.00
Hydrocarbon, Hard	ton	29.00	@	35.00
Hydrocarbon, Soft	ton	29.00	@	35.00
320/340 M.P. hydrocarbon (c. l. factory)	ton	47.00	@	52.00
300/310 M.P. hydrocarbon (c. l. factory)	ton	42.00	@	47.00
Syncro, granulated, M.R. (factory)	ton	55.00	@	70.00

SOFTENERS

Acids				
Acetic, 28%	cwt.	3.12	@	3.37
Cresylic, 97%	gal.	.62	@	.64
95%		.58	@	.60
Muriatic, 20%	cwt.	.90	@	1.00
Nitric, 36 degrees	cwt.	4.25	@	4.50
Sulphuric, 60 degrees	ton	9.50	@	10.50
66 degrees	ton	14.00	@	15.00
Tartaric, crystals	lb.	.29	@	—
Alkalies				
Caustic soda, 76%	cwt.	3.60	@	—
Soda ash, 58% C.L.	cwt.	1.43	@	1.45½
Oils				
Castor, No. 3, bbls.	lb.	.16	@	—
Chinawood, bbls.	lb.	.13	@	—
Corn, crude, bbls.	lb.	.12	@	—
refined	lb.	.13	@	—
Cottonseed, crude		.09½	@	—
Glycerine C.P. drums	lb.	.19	@	.19½
Linseed, Raw C.L. bbl.	gal.	1.05	@	—
Palm, Niger	lb.	.09	@	—
Lagos	lb.	.08⅞	@	.09¼
Peanut, domestic, crude	lb.	.13	@	—
Petrolatum, white		.12	@	.12¼
amber		.03⅞	@	.04
dark amber	lb.	.03⅝	@	.03¾
Pine, steam distilled	lb.	.65	@	.66
Rapeseed, refined	gal.	.98	@	—
blown	gal.	1.05	@	—
Rosin, first rectified	gal.	.52	@	.53
second rectified	gal.	.55	@	.56
Soya Bean, crude		.13¼	@	.13½
Tar, commercial	gal.	.30	@	.32
Resins and Pitches				
Parra M.R.	lb.	.06	@	.07
Tar Retort	bbl.	13.50	@	14.50
kiln burned	bbl.	13.50	@	15.50
Pitch, Burgundy	lb.	.05	@	.06½
coal tar	gal.	.05½	@	.06
pine	bbl.	6.00	@	6.50
Rosin, grade K	bbl.	10.30	@	—
Shellac, Superfine, orange	lb.	.63	@	.65
Solvents				
Alcohol, denatured, No. 1 bbls.	gal.	.57½	@	.61½
Benzol, 90%	gal.	.21	@	—
pure		.23	@	—
Carbon bisulphide	lb.	.05½	@	.06½
tetrachloride	lb.	.06¾	@	.07½
Dimethylaniline	lb.	.33	@	.36
Motor gasoline, steel bbls.	gal.	.18	@	—
Naptha, V. M. & P.	gal.	.17¾	@	—
Toluene	gal.	.26	@	—
Turpentine, spirits	gal.	1.05	@	1.07
wood	gal.	.92	@	.95
Waxes				
Bayberry	lb.	.21	@	.22
Beeswax	lb.	.55	@	.65
Carnauba, No. 1	lb.	.35	@	.37
Ceresin, white	lb.	.10	@	.11
Montan, crude	lb.	.06	@	.06½
Ozokerite, black	lb.	.24	@	.25
green	lb.	.26	@	.30
Paraffine White, A.M.P.	lb.	.05¼	@	.05¼
Yellow A.M.P.	lb.	.05⅜	@	.05½
Sweet wax	lb.	.12	@	—

SUBSTITUTES

Black		.08	@	.15
White	lb.	.09	@	.16
Brown	lb.	.10	@	.15
Brown factice	lb.	.09	@	.18
White factice	lb.	.09	@	.16

VULCANIZING INGREDIENTS

Black hyposulphite	lb.	.18	@	.20
Ethyl Chloride, Cyl.	lb.	.55	@	—
" " Drums	lb.	.45	@	—
Sulphur Chloride (drums)	lb.	.04½	@	.06
Sulphur flour Commercial bags	cwt.	1.35	@	1.70
" bbls.	cwt.	1.70	@	—
Superfine, bags	cwt.	2.20	@	2.50
" bbls.	cwt.	2.60	@	2.90
100% pure, refined, bags	cwt.	2.35	@	2.65
bbls.	cwt.	2.60	@	2.90

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Highest Grade for Rubber Industries

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THE HARSHAW FULLER & GOODWIN CO.

CLEVELAND, OHIO

SALES AGENTS
for
RICHMOND MICA CORPORATION
RICHMOND, VA.

Stocks Carried at

Cleveland O. **Richmond, Va.**

REVUE GENERALE DU

CAOUTCHOUC

New monthly trade and technical paper covering all phases of the rubber trade in France.

Annual Subscription in United States—40 francs.
Single Copy—5 francs.

REVUE GENERALE DU CAOUTCHOUC
18, Rue Duphot
Paris (1er)

The Market as Seen by a British Factor

(*Continued from Page* 129)

ports of wet rubber into Singapore, seems to tend to prove that native production is more likely to increase than show a falling off.

In the figures we have given for the world's shipments next November we have allowed for no increase in output from the unrestricted area, if the unrestricted output continues to increase in anything like the same proportion that it has during the last few years, the estimate we have given may be unduly low. Providing present prices are maintained we think there will be an increase but not to the same extent that has taken place during the last year or so.

Shipments from the Dutch East Indies have also shown a steady increase, and there is every reason to expect that this increase will be maintained for some years to come. The figures as given by Rickinson's are:—

	JAVA & MADURA:	SUMATRA EAST COAST:
1922	31,558	40,552
1923	34,100	45,930
1924	43,383	53,234

High prices for any plantation produce will inevitably bring out increased supplies, and if a commodity is selling well over the cost of production the increase in supplies and discovery of available stock that take place are usually surprising.

Notwithstanding the fact that some producers have continually complained, and still do complain, that estates under their control have been given a standard production that is much too low, they now, together with nearly all branches of the industry, seem to have satisfied themselves that estates in the restricted area cannot produce their full standard production, and that the maximum they would be capable of producing is only about 85 per cent of the standard allotted to them.

The Planter's Explanations

The majority of people do not give any explanation as to why this should be so, but merely content themselves with saying that that is what all the planters home from the East tell them. The planters themselves give various reasons to substantiate their contention, the principal ones being, lack of available labor, lower yield from early planted areas, and more conservative tapping needed on account of poor bark renewal. These are all very plausible arguments and apparently convincing to those who wish to be convinced, that is the jovial optimist, and those owners of estates that know very well that they can easily produce more than their standard production; and whom nothing would please better than to have the permitted output say 120 per cent of the standard and to be able to condole with those owners who were unable to produce more than 85 per cent.

The planter in the East treats labor conditions in very much the same manner as the English farmer treats weather conditions, in fact he is never satisfied; either he complains of too much labor—this very seldom—or of too little labor. The fact, however, remains that when extra labor is required the efficient manager invariably procures it even though he has to go into the Malay Kampongs and persuade the inhabitants by high wages to leave their homes and come and do a little quiet tapping on the estate. The argument that less yield is being obtained from early planted areas is more justified but against this there is a steadily increasing output from the areas planted six to eight years ago. The tapping systems now in vogue are probably very much more conservational than they were before the restriction scheme was introduced, this conservative policy in tapping is not necessarily adopted because the planter thinks it essential, but because if he did not adopt it he would be producing more than his permitted output. For example, the manager of an estate may say that his tappers are so well trained that they only remove one inch of bark in 30 days tapping and may add that under restriction he is tapping on alternate days a quarter panel 36 in. from the ground. If he is correct in saying that his tappers only remove one inch in 30 days tapping, this system would give him a bark renewal of 24 years. Probably in practice it gives him a bark renewal of 16 years. We do not, of course, suggest that this system is the one generally adopted, but we give it as an example to show the conditions that would have to exist before it would be impossible for estates to produce more than 85 per cent of their standard production.

Given a price of 1s. 9d. and no restriction of output we do not for one moment believe that estates would continue the conservative tapping policy they are now following, nor do we think, that the present enforced conservative policy would be necessary except possibly for some few estates on very bad ground that have a very poor and slow bark renewal.

Average Per Acre Less

Taking only the areas on which the trees were six or more years old in 1920 we have compared the output per acre in that year with the standard production per acre allowed to the same estates with areas of the same age to-day. Although in many cases the standard production per acre is more than it was during 1920 we find that on the average it is less and most likely rather less than our figures show owing to the maximum standard production for any given area having been reduced to 400 lb. To maintain that the average estate can only produce 85 per cent of its standard production is tantamount to asserting that the average output per acre to-day could not be as much as it was five years ago, on the contrary it should be more as since 1920 better planted and more healthy areas have come into bearing, and old areas that had been overtapped and maltreated in the boom years, have, thanks to restriction, had every opportunity of recuperating and growing fresh and thicker bark on those parts of the tree where the renewal was slow owing to overtapping or damaged cambium.

The net shipments from Malaya and Ceylon in 1922, three years ago, when the average price was little more than 9d., amounted to 260,000 tons; standard production is 326,000 tons, a difference of 66,000 tons, which shows an increase of 25 per cent on the 1922 output. The percentage of increased output from 1917 to 1920, the year before the slump in prices took place, and the last year that prices averaged about the present level, was 46 per cent.

We therefore see no reason why the restricted areas should not be able to produce their full standard production, the present output from the unrestricted area be fully maintained, and consequently the present shortage be relieved before the end of the year.

Coagulation of Hevea Latex

A series of interesting experiments have been carried out, as reported in the *Arch. Rubberculture*, volume 8, number 10, on the coagulating phenomena of rubber latex. At one time this subject was of interest to the rubber grower and not so much to the rubber manufacturer, but within recent years, due to the use of rubber latex directly in the manufacturing processes, the subject has become of considerable importance to the rubber manufacturer as well. Thus any information that is published on this general subject is bound to be of interest.

Thus from these experiments it was concluded that when the latex was suitably heated, for example by introducing 100 c.c. of the latex into 900 c.c. of boiling water, the latex loses its power of forming a coherent clot on the subsequent addition of twenty cubic centimeters of a 2.25 per cent solution of acetic acid. This acidified "B mixture" will gradually form a white layer of rubber flocks above a clear serum but the flocks are easily re-dispersed.